University of Ghana http://ugspace.ug.edu.gh

UNIVERSITY OF GHANA



REMITTANCES, FINANCIAL INCLUSION AND ECONOMIC GROWTH IN SUB-SAHARAN AFRICA

BY

VIDA OFORI NTIM

(10581675)

THIS THESIS SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF MASTER OF PHILOSOPHY IN FINANCE

DEPARTMENT OF FINANCE

DECEMBER 2023

University of Ghana http://ugspace.ug.edu.gh

DECLARATION

I, Vida Ofori Ntim, hereby declare that the work in this thesis titled "Remittances, Financial Inclusion and Economic Growth in Sub-Saharan Africa" is the outcome of assiduous efforts in my research. Information in this thesis has been duly acknowledged and sources have been provided in the list of references. I accept full responsibility for any deficiencies in this thesis.

Candidate's Signature: ……. Date: 13/01/2026

Name: Vida Ofori Ntim

Supervisors:

Supervisor's Signature: ……. Date: 14/01/2026

Name: Dr. Godfred Amewu

Supervisor's Signature: ……. Date: 14/01/2026

Name: Dr. Kwaku Addae-Ankrah

University of Ghana http://ugspace.ug.edu.gh

ACKNOWLEDGEMENT

Many people have contributed to the development of this thesis. My supervisors, Dr. Godfred Amewu and Dr. Kwaku Addae-Ankrah, as well as the Head of the Department of Finance, deserve a special mention for their guidance and supervision which has led to a successful completion of my work. Significant contributions from lecturers from the Department of Finance towards my work are greatly appreciated.

I express my profound gratitude to my family and benefactors, for their unwavering support throughout this academic journey.



University of Ghana http://ugspace.ug.edu.gh

ABSTRACT

The study examined the connections between remittances, economic growth and financial inclusion across a panel data of 34 countries in Sub-Saharan Africa (SSA) from 2010 to 2020. Utilizing both Mean Group (MG) and Pooled Mean Group (PMG) Autoregressive Distributed Lag (ARDL) estimations, the study conducted panel unit root and co-integration tests. In both the short and the long run, it was determined that remittances and financial inclusion positively influenced economic growth. The interactive term indicated that financial inclusion served as an alternative in the relationship between remittances and economic growth. Ultimately, the study identified unidirectional causal links from financial inclusion to economic growth and from economic growth to remittances; however, between remittances and financial inclusion, no causal relationship was established in the Sub-Saharan African context. The results highlighted that, with the causality originating from financial inclusion to economic growth, financial inclusion is a significant mechanism for enhancing economic growth in Sub-Saharan Africa.

This study is motivated by the critical role that remittances play as a significant source of external financing in Sub-Saharan Africa, where formal financial inclusion remains limited. Despite the growing volume of remittances, their potential to catalyze broader economic growth through improved access to financial services remains underexplored. Understanding the interaction between remittances and financial inclusion is essential to uncover how these financial flows can contribute to sustainable economic development in the region. This research aims to fill this gap by investigating how remittances influence financial inclusion and, in turn, impact economic growth across Sub-Saharan African countries.

The study recommends that both short-term and long-term financial policies in the sub region should prioritize enhancing the performance of the financial sector via the development and

University of Ghana http://ugspace.ug.edu.gh

execution of effective reforms aimed at strengthening the financial sector of the economy. There should be a wider array of banking services, such as rural banking, internet and mobile banking, and Automated Teller Machines (ATMs), to integrate more households receiving remittances in Sub-Saharan Africa into the formal financial system to ensure a more inclusive growth.



University of Ghana http://ugspace.ug.edu.gh

TABLE OF CONTENTS

DECLARATION i
ACKNOWLEDGEMENT ii
ABSTRACT iii
TABLE OF CONTENTS v
LIST OF TABLES vii
CHAPTER ONE 1
1.0. Introduction 1
1.1. Background of the study 1
1.2. Problem statement 2
1.3. Research objectives 5
1.4. Research questions 5
1.5. Significance of the study 5
1.6. Scope of the study 6
1.7. Structure of the study 7
CHAPTER TWO 8
2.0. Literature Review 8
2.1. Introduction 8
2.2. Conceptual framework 8
2.2.1. Remittances-financial inclusion nexus 9
2.2.2. Financial inclusion-economic growth nexus 10
2.2.3. Economic growth-remittances nexus 11
2.3. Theoretical review 12
2.3.1. Public good theory 13
2.3.2. Financial literacy theory 13
2.3.3. Vulnerable group theory 14
2.3.4. Systems theory 15
2.3.5. Capability approach 16
2.4. Empirical review 17
2.4.1. Evidence from Sub-Saharan Africa 22
2.5. Contexualising remittances 25
2.5.1. Remittances in developing economies 29

University of Ghana http://ugspace.ug.edu.gh

2.5.2. Socio-economic effects of remittances 31
2.5.3. Growth effects of remittances 35
2.6. Financial inclusion 38
2.7. The present state of Sub-Saharan Africa 41
2.8. Literature review summary and gap 44
CHAPTER THREE 45
3.0. Methodology 45
3.1. Introduction 45
3.2. Research approach 45
3.3. Data 46
3.4. Variable description 47
3.5. Model specification 48
3.5.1. Estimation technique 49
CHAPTER FOUR 51
4.0. Results and Discussion 51
4.1. Introduction 51
4.2. Descriptive statistics 51
4.3. Correlation matrix 53
4.4. Panel unit root tests 54
4.5. Panel cointegration tests 55
4.6. Empirical results and discussion 57
4.7. Granger causality test 63
CHAPTER FIVE 65
5.0. Conclusion 65
5.1. Introduction 65
5.2. Summary 65
5.3. Recommendations and future research 66
REFERENCES 68
APPENDIX 92

University of Ghana http://ugspace.ug.edu.gh

LIST OF TABLES

Table 1 Variable definition 48

Table 2 Descriptive statistics 52

Table 3 Correlation matrix 53

Table 4 Panel unit root 55

Table 5 Kao residual panel cointegration 56

Table 6 Pedroni cointegration 56

Table 7 Short run and long run PMG/Autoregressive Distributed Lag 59

Table 8 Short run and long run MG/Autoregressive Distributed Lag 60

Table 9 Vector Autoregressive Granger Causality/Block Exogeneity Wald 64

Table 10 List of countries included in sample 92

INTEGRI PROCEDAMUS

University of Ghana http://ugspace.ug.edu.gh

CHAPTER ONE

1.0. Introduction

1.1. Background of the study

Researchers and policymakers take a keen interest in the study of remittances because they provide a substantial source of funding for international development (World Bank, 2022). According to the World Bank (2018) report, global remittances grew from USD 470 billion to USD 683 billion between 2007 and 2018. Between 2017 and 2018, global remittance flows rose from USD 633 billion to USD 683 billion. In 2018, remittance inflows to low-income and middle-income countries surpassed the preceding high of USD 483 billion recorded in 2017 by 9.6% (World Bank, 2018). Furthermore, from 2007 to 2018, remittances to these nations rose to USD 529 billion, representing 53%, escalating from USD 343 billion. In comparison, the remittances sent to high-income countries saw only a 21% increase from USD 127 billion, during this same timeframe, growing to USD 154 billion. Moreover, in the last twenty years, remittance inflows into developing countries are double that of private capital flows, three times the amount of official aid, 18 times more than official capital flows, and 15 times greater than official transfers (World Bank, 2016). These results indicate that remittances significantly contribute to enhancing countries globally, by encouraging consumption, which boosts aggregate demand. Remittances provide benefits directly to the recipients while also delivering indirect advantages to those who transact with them (Bollard et al., 2011). Importantly, remittances improve recipients' access to financial services, thereby increasing financial inclusion and driving economic growth. Various perspectives exist regarding how remittances contribute to economic growth, both directly and indirectly, considering remittances as a major and dependable source of external funding (Bollard et al., 2011). Scholarly work indicates that remittances impact economic growth through three primary channels. First

University of Ghana http://ugspace.ug.edu.gh

channel is the welfare effect. They improve the welfare of recipients directly, while indirectly benefiting other individuals (Issabayev et al., 2020). Particularly, the supply side is influenced as remittances increase their consumption expenditure of receipts and ease the budget limitations of recipients. This then results in a positive multiplier effect on the overall economy. The next is the growth effect. They facilitate higher investments in both physical capital and human capital. Also, increased savings stemming from remittances provide financial resources for investment, fostering the development of the financial sector and influencing economic growth directly (Aggarwal et al., 2011). The last channel is the moral hazard effect. Remittances may reduce the incentive for recipients to engage in productive economic activities. Recipients of remittances may choose not to work because of the regular income flows they receive, especially when amounts of remittances received adequately meets their necessary needs and offers them leisure time (Aggarwal et al., 2011; Chiodi et al., 2012). This scenario could adversely impact the economy of the recipient country. Certain studies suggest that remittance inflows could have detrimental effects on economic growth, with the growth effect potentially clarifying this phenomenon.

INTEGRI PROCEDAMUS

1.2. Problem statement

Financial inclusion has increasingly become a focal point due to the growing awareness of its ability to foster development (Sharma, 2016). A well-functioning financial system that efficiently allocates resources contributes to the enhancement and advancement of an economy (McKinnon, 1973). Consequently, it is justifiable to link the substantial economic growth in areas where financial services are inaccessible to a large portion of the population, particularly in developing nations (Sharma, 2016). Many studies have either examined these connections separately or looked at the impact of remittances on economic growth, with financial inclusion as a mediator

University of Ghana http://ugspace.ug.edu.gh

(Ambrosius & Cuecuecha, 2013; Nyamongo et al., 2012; Sarma & Pais, 2011; Sobiech, 2019; Yoshino et al., 2017). Additionally, other research (Demirgüç-Kunt et al., 2011; Gupta et al., 2009) has considered the potential for remittances to affect various aspects of financial inclusion independently. Lastly, most investigations (Ajefu & Ogebe, 2019; Anzoategui et al., 2014) have sought to explore these relationships using data from a single country, failing to provide insights relevant to developing economies such as those in Sub-Saharan Africa (SSA). Demirgüç-Kunt et al. (2015) examines financial inclusion on a global scale by offering a broad overview of prevalent issues. Numerous studies within Africa (Beck & Cull, 2015; Mlachila et al., 2013; Zins & Weill, 2016) investigate how banking services affect financial inclusion across the continent. By analyzing disparities in financial inclusion throughout the SSA region, effective policies can be designed to address specific concerns. This is supported by the notion that SSA faces numerous challenges that differ from one nation to another. Thus, this study builds on the research by Sarma and Pais (2011), Sobiech (2019) and Wang and Guan (2017), adds to the body of knowledge regarding the link between remittances and financial inclusion by examining their interrelationships. Hence, it is essential to have an absorptive capacity that can influence the relationship between economic growth and remittances. In this light, financial inclusion serves as a critical indicator of financial absorptive capabilities, which may shape the relationship between remittances and economic growth. This research proposes that countries with stronger financial structures are better positioned to direct remittances towards fostering economic growth. In fact, robust financial inclusion is essential for achieving sustainable and equitable economic progress; thus, a well-established financial sector can effectively absorb remittance inflows and direct them towards productive economic activities. Although there have been many studies exploring the connection between remittances and economic growth, there appears to be a scarcity of academic

University of Ghana http://ugspace.ug.edu.gh

work investigating the role of the inclusive financial structure as a channel for this relationship in Sub-Saharan Africa. The literature has not simultaneously examined how improved financial inclusion influences the link between remittances and economic growth, even in light of conflicting results from direct causal models in developing countries. Even as remittance flows have significantly increased, there is evidence suggesting a negative correlation between remittances and economic growth (Chami et al., 2012), indicating the potential for an indirect relationship. Despite the substantial remittance inflows to African nations, research specifically focused on the interactions among remittances, financial development, and economic growth in Sub-Saharan African countries is limited. The few existing studies for the region include Kumar (2012), which analyzed data from 1970 to 2010, while more recent work (Adarkwa, 2015) utilized linear regression from 2000 to 2010 for 4 countries in Sub-Saharan Africa. Moreover, a study by Coulibaly (2015) conducted Seemingly Unrelated Regression and panel Granger causality test for a set of countries represented by 19 SSA nations, covering the years from 1980 to 2010. The empirical studies highlighted above indicate that prior research has largely concentrated on the connection between remittances and financial development, as well as their effects on economic growth and other macroeconomic factors in developing nations.

While extensive research has explored the individual effects of remittances and financial inclusion on economic growth, there remains a significant gap in understanding the nuanced interaction between these factors within the context of Sub-Saharan Africa. Additionally, earlier studies have not thoroughly analyzed the short-term and long-term impacts of remittances and financial inclusion on economic growth, particularly in underdeveloped countries and Sub-Saharan Africa specifically. The findings of this study aim to provide valuable insights for policymakers aiming to harness the full potential of remittances to promote sustainable economic growth, by

University of Ghana http://ugspace.ug.edu.gh

demonstrating that financial inclusion amplifies the effects of remittances. Consequently, this study aims to enhance the available literature by addressing this research gap.

1.3. Research objectives

To explore this gap, this study seeks to examine how remittance inflows impact economic growth via financial inclusion. Specifically, this study aims to;

i. examine the effects of remittances on economic growth in Sub-Saharan Africa.
ii. assess the short run and long run effects of remittances and financial inclusion on economic growth in Sub-Saharan Africa.

1.4. Research questions

This study aims to answer the following questions;

i. What are the effects of remittances on economic growth in Sub-Saharan Africa?
ii. What are the short run and long run effects of remittances and financial inclusion on economic growth in Sub-Saharan Africa?

INTEGRI PROCEDAMUS

1.5. Significance of the study

Empirical research has demonstrated that earlier studies have largely concentrated on the relationship between remittances and financial inclusion, as well as the way in which these two factors influence economic growth and other macroeconomic elements in developing nations. Nevertheless, there has been insufficient empirical examination of the impact of remittances on

University of Ghana http://ugspace.ug.edu.gh

economic growth through the lens of financial inclusion, particularly in Sub-Saharan Africa countries. Moreover, prior research has not specifically investigated the short-term and long-term repercussions of financial inclusion and remittances on economic growth in underdeveloped nations in as a whole, and Sub-Saharan Africa, to be specific. Consequently, this study aims to enhance the existing limited research by addressing this gap. It offers novel perspectives on the role of financial inclusion plays as a mediator of the effects of remittances on economic growth and adds to existing studies on the relationship between remittances and financial inclusion by delving into their interconnections. It is vital for policymakers to develop both micro-level and macro-level strategies that will aid in understanding financial inclusion and its impact on economic growth. Enhancing financial inclusion can help reduce poverty while working towards the achievement of Sustainable Development Goals (SDGs) and improving individuals' well-being. Financial inclusion provides consistent and complementary solutions for tackling issues such as lack of education, exclusion, poverty, and promoting inclusive development, as well as addressing the SDGs (Demirgüç-Kunt et al., 2015). The recommendations and policy implications derived from this study can be applied to other similar contexts and serve as a basis for future research.

INTEGRI PROCEDAMUS

1.6. Scope of the study

In this study, an effort was made to examine how remittances impact economic growth through its interaction with financial inclusion. The study was delimited to 34 Sub-Saharan African countries, due to availability of data. The study spans the period 2010-2020.

University of Ghana http://ugspace.ug.edu.gh

1.7. Structure of the study

The rest of the study is organised as follows. The study begins with this chapter which provides the background, and gives insights into the problem statement and objectives of the study. Chapter Two reviews the relevant empirical literature. Chapter Three and Chapter Four discuss the methodology used in the study, and the findings from this study, respectively. Additional analyses are given in Chapter Five, and Chapter Six provides the conclusion.



University of Ghana http://ugspace.ug.edu.gh

CHAPTER TWO

2.0. Literature Review

2.1. Introduction

The chapter reviews relevant body of literature related to the subject matter of the study. This literature review examines and presents relevant empirical works related to a subject of study. Specifically, the chapter presents the conceptual framework, theories and empirical studies of the study.

2.2. Conceptual framework

According to Miles and Huberman (1994), "a conceptual framework explains either graphically or in a narrative form, the main things to be studied - the key factors constructs or variables and the presumed relationships among them". This study adopts Chuc Anh Tu et al.'s (2019) conceptual framework model which establishes a concurrent linkage among remittances, financial inclusion and economic growth.

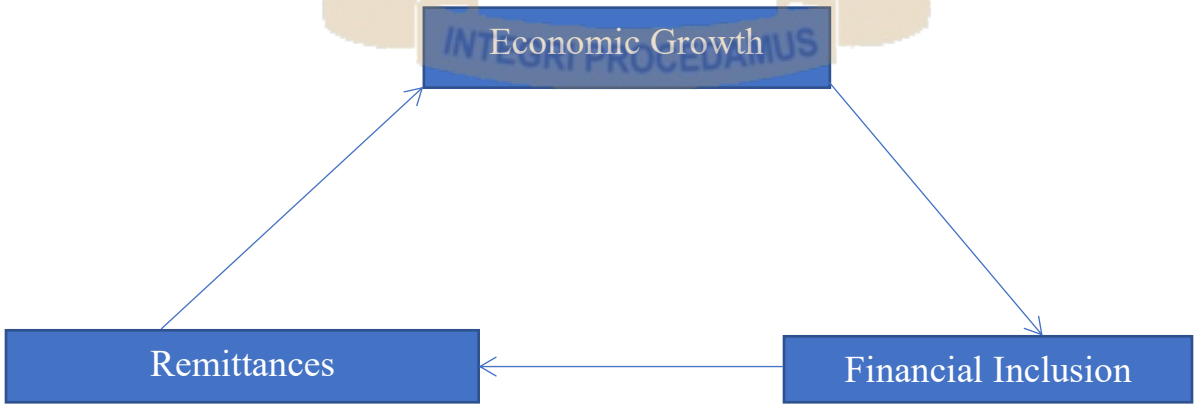


Figure 2.1: Relationship between Economic Growth, Financial Inclusion and Remittances

University of Ghana http://ugspace.ug.edu.gh

2.2.1. Remittances-financial inclusion nexus

Academics, policymakers and researchers have focused on the link between remittances and financial inclusion in recent times. Financial inclusion has lately received increased attention because to its capacity to affect financial development and, as a result, economic growth (Dupas & Robinson, 2013). Conflicting strands of literature have been presented in studies on remittances and financial inclusion. Some studies posit that remittances may not lead to a more inclusive financial system. According to Brown et al. (2013) and Calderón et al. (2008), remittances decrease credit demand, weaken credit markets and decrease domestic credit to the private sector. Similarly, using Mexican household panel data, Ambrosius and Cuecuecha (2013) suggests that remittances are unrelated to financial inclusion, possibly because remittances ease recipient households' financial constraints, allowing them to invest in labour without accruing debt (Ambrosius & Cuecuecha, 2013; Chami & Fullenkamp, 2011; Giuliano & Ruiz-Arranz, 2009). Another strand of literature (Aggarwal et al., 2011; Gupta et al., 2009) confirm the assertion that remittances having a developmental effect on financial inclusion at household and national levels. Aggarwal et al. (2011) use a panel dataset from 99 countries to show that remittances increase overall deposits and lending. Furthermore, these results have been validated by Demirgüç-Kunt et al. (2011) and Gupta et al. (2009). Additional studies have deliberated on the accessibility aspect of financial inclusion, reporting on the possible positive relationship between remittances and accessibility to financial services in developing countries in Latin America, the Pacific, Asia, and Sub-Saharan Africa (Ambrosius et al., 2014; Inoue & Hamori, 2016). Bulkiness of remittances, which could increase the need for deposit accounts (Ambrosius & Cuecuecha, 2016), decrease in the risk of adverse client selection and asymmetric information (Roa, 2015), motivating lenders to increase the creditworthiness of clients (Orozco & Fedewa, 2006), and the sharing of financial knowledge and

University of Ghana http://ugspace.ug.edu.gh

literacy are some factors contributing to the positive effect of remittances (Yoshino et al., 2017). Because of this, prior studies, although utilizing a variety of methodologies and samples, have been unable to reach a consensus on the overall impact of remittances.

2.2.2. Financial inclusion-economic growth nexus

The financial inclusion-economic growth nexus has become a topical issue among researchers as well. However, there is limited knowledge on the direct link between them as well as varying results from literature. First, financial inclusion, which includes affordable access to financial services, might be a significant growth engine. According to research by Demetriades and Hussein (1996), a successful economy is required for long-term financial infrastructure owing to an inclusive and efficient financial system. This nexus has since been researched in numerous aspects. Financial inclusion has proven to boost human development, to reduce poverty and inequality, to raise household investment, and to improve financial development (Bruhn & Love, 2014; Dupas & Robinson, 2013; Mohan, 2006; Sarma & Pais, 2011), all of which contribute to economic growth. Among other key causes of growth disparities between Middle East and North Africa, and other regions, according to Bhattacharya and Wolde (2010), is a lack of access to credits. Similar to this assertion, Kim et al. (2018), and Kpodar and Andrianaivo (2011) discover that financial inclusion promotes economic growth in Africa and Organisation of Islamic Cooperation (OIC) countries. Another body of literature, however, maintains that financial inclusion does not always result in economic growth. Financial inclusion that is attained through uncontrolled credit expansion has raised concerns as it may have a detrimental effect on economic stability and consequently, economic growth (Mehrotra & Yetman, 2015). There has been an issue that financial inclusion attained through unregulated and rapid growth in credit can negatively impact

University of Ghana http://ugspace.ug.edu.gh

economic stability and subsequently, economic growth (Mehrotra & Yetman, 2015). In contrast to advanced economies such as Europe and the UK, where the recent crisis has hampered economic development, emerging economies like China and India have had sustained high rates of growth (Bhattarai, 2015). Again, in bank-based countries, the linkage between banking system depth and economic growth may deteriorate due to inflationary pressures and the level of economic expansion (Rioja & Valev, 2004; Rousseau & Wachtel, 2002). Financial deepening and economic growth, according to Barajas et al. (2013), and Masoud and Hardaker (2012), have an indirect link.

2.2.3. Economic growth-remittances nexus

Given the increased significance of remittances, research has attempted to explore the growth effects of remittances transfers on receiving economies and households. Although the number of studies concentrating on this nexus is minimal, the outcomes are varied. One body of literature argues that remittances enhance growth in different aspects. Research supporting this view have examined how remittances can affect factors that could ultimately lead to economic growth, including lower rates poverty and financial development (Acosta et al., 2008; Aggarwal et al., 2011; Akobeng, 2016), investment (Le, 2011), labour productivity (Azizi, 2018), positive spending behaviour (Adams & Cuecuecha, 2010; Cox Edwards & Ureta, 2003), and macroeconomic effects (Buch & Kuckulenz, 2010). Another strand of literature is also concerned about the growth-dampening effects of remittances, as institutional quality may be weakened, corruption and inflation increase and labour force participation may reduce due to an increase in remittances (Abdih et al., 2012; Ball et al., 2013; Berdiev et al., 2013; Cox Edwards & Rodríguez-Oreggia, 2009); this is because recipients rely on remittances sent by migrants instead of engaging in work. Remittances and growth studies are associated negatively although insignificantly, according to

University of Ghana http://ugspace.ug.edu.gh

research by Clemens and McKenzie (2014), Rao and Hassan (2012), and Senbeta (2013). In particular, Rao and Hassan (2012) show that these remittances might have an influence on GDP per capita in various aspects, including financial development, investment and productivity; nevertheless, overall, these benefits may balance out. According to Kratou and Gazdar (2016), there is a short-term negative impact of remittances on economic growth but a long-term positive one. An opposing view in literature suggests that the effect of remittances on economic growth is contingent on the level of financial sector development (Benmamoun & Lehnert, 2013; Ramírez, 2013). Particularly, it is concluded by Sobiech (2019) that remittances may greatly boost growth in underserved nations with underdeveloped financial markets. According to them, remittances might be used more effectively and generate finance for growth-enhancing initiatives in a nation with an underdeveloped financial system and larger credit limits. Particularly in low-income economies, remittances are a key driver of economic growth, according to Benmamoun and Lehnert's (2013) analysis. The opposite is true, according to findings from Bettin and Zazzaro (2008), and Nyamongo et al. (2012), which show a significant nexus between remittances and financial progress. These studies show that remittances' impacts on growth are strengthened by a deeper financial system.

INTEGRI PROCEDAMUS

2.3. Theoretical review

This section represents the different theories that underlie financial inclusion. These theories include; public good theory, financial literacy theory, vulnerable group theory and systems theory. Theories related to financial inclusion include those focused on beneficiaries, funding, and delivery methods. These theories, applicable in both academic and policy contexts, offer credible insights into the goals and results of financial inclusion. Policymakers can also utilize these

University of Ghana http://ugspace.ug.edu.gh

theories to rationalize the different approaches they implement to promote financial inclusion (Ozili, 2020).

2.3.1. Public good theory

The theory of public good regarding financial inclusion contends that formal financial services is considered a public good, therefore, access to finance should be available to everyone without restrictions. Since access to formal financial services for one person does not diminish its availability for others, all individuals can potentially be inclusive of the formal financial sector, resulting in overall improvement for society (Ozili, 2020). According to this perspective, every member of the community benefits from financial inclusion, irrespective of their demographic differences, income level or status, with the government responsible for subsidizing the costs of provision of formal financial services to its nationals, thus enabling it to play a role in enhancing financial inclusion (Aggarwal & Klapper, 2013). However, Chibba (2009) points out that offering formal financial services as a public good may not tackle the underlying issues of financial exclusion. Additionally, considering these services as a public good relies on the premise that these services are provided at little or no cost to users. If formal financial services are regarded as a public good, then financial inclusion may not be feasible in the long run, if the costs associated with these services are not adequately priced, even with governmental support.

2.3.2. Financial literacy theory

Ozili (2020) posits that enhancing financial literacy among citizens through education can lead to greater financial inclusion. Increased financial literacy gives recognition to the formal financial services available, thereby potentially improving individuals' welfare, self-reliance, and stability.

University of Ghana http://ugspace.ug.edu.gh

Chibba (2009) suggests that governments with constrained public funds or limited tax revenues might choose to adopt financial literacy as a key pathway for financial inclusion, as educating citizens about financial literacy and the advantages thereof, is generally more cost-effective. Furthermore, Ozili (2020) argues that individuals' willingness to engage with the formal financial sector may not inevitably equate to their 'capacity' to do so, with capacity defined as possessing funds for completing one or more financial transactions. Consequently, individuals lacking financial means and lacking capacity, cannot engage themselves in the formal financial system, although these individuals have acquired financial literacy.

2.3.3. Vulnerable group theory

The theory concerning vulnerable groups posits that those who are marginalized, such as the impoverished, women, the elderly and the youth, are disproportionately affected by economic downturns and financial crises, thus highlighting the importance of integrating these groups into the formal financial system (Bhandari, 2018; Swamy, 2014). This theory suggests that financial inclusion initiatives should specifically focus on vulnerable individuals in society to convey a sense of compensation for the existing income or gender disparities they face, providing them a chance to improve their standing relative to other societal segments. Ozili (2020) argues that concentrating financial inclusion efforts solely on vulnerable populations may exacerbate social inequality when policies are crafted to favor these groups over others. There is a risk of increasing income inequality if vulnerable individuals gain consistent and advantageous access to formal financial services as opposed to the non-vulnerable counterparts. The theory of vulnerable group does not advocate for universal financial inclusion across the whole population. Additionally, it overlooks non-vulnerable individuals who are also not included in the formal financial sector and

University of Ghana http://ugspace.ug.edu.gh

in need of access to such services. Furthermore, it presumes that women constitute a part of this demographic, which inadvertently suggests that men are not vulnerable. The notion is significant because, in contemporary environments, both men and women strive for equal opportunities; thus, categorizing women as a vulnerable while excluding men may foster unintended negative sentiments among men toward women.

2.3.4. Systems theory

The systems theory posits that financial inclusion results are attainable via the various existing sub-systems, namely, social, economic and financial, leading to positive outcomes for these sub systems as a result of improved financial inclusion (Ozili, 2018). According to Mehrotra and Yetman (2015), a significant shift within one sub-system can greatly influence the anticipated financial inclusion impacts. For instance, enforcing regulations on financial sector agents of the financial system can match their interests with the interests of the users of financial services, compelling them to provide quality and reasonably priced financial services, while adhering to established regulations that protect users from price discrimination and exploitation (Swamy, 2014). Conversely, Kim et al. (2018) contend that a substantial change at the overall systems, like substituting the current financial inclusion plan of a nation with an entirely new one, will probably not bring about changes in the current sub-systems because alterations should be made specifically at that level. Therefore, the theory indicates that the effectiveness and efficiency of these sub-systems will ascertain the overall yield of the national financial inclusion strategy, and the existing sub-systems, namely, social, financial and economic systems, within a nation, ultimately benefit from financial inclusion.

University of Ghana http://ugspace.ug.edu.gh

2.3.5. Capability approach

The capability approach (Sen, 1999), elaborated by Robeyns (2021), provides a powerful theory for understanding development as the expansion of individuals' real freedoms and opportunities to lead lives they have reason to value. This perspective shifts the focus from mere income or resource availability to people's actual abilities to achieve valuable functioning, emphasizing empowerment and agency. Financial inclusion is widely recognized within this framework as a crucial pathway for enhancing capabilities, by enabling access to financial products and services that allow individuals to invest in education, health, entrepreneurship, and social activities that improve well-being and reduce poverty (Robeyns, 2021; Sen, 1999). Empirical evidence from recent studies consistently shows that improved access to financial services contributes significantly to poverty alleviation by increasing economic security and reducing vulnerability to shocks at the household level (Klapper et al., 2021). Furthermore, financial inclusion plays a key role in social empowerment, especially for women and marginalized groups. For example, research by Suri and Jack (2022) illustrates that mobile money and digital financial services enhance women's economic autonomy and decision-making power, though the degree of empowerment depends on local social norms and institutional contexts – factors that the capability approach explicitly recognizes as important "conversion factors" that influence how resources are translated into real freedoms. Complementing access with financial literacy and tailored services has also been shown to increase the effectiveness of financial inclusion programs in fostering empowerment and sustainable development outcomes (Dupas et al., 2022). Therefore, the capability approach offers a nuanced lens for understanding financial inclusion as more than access – it is about ensuring that individuals can meaningfully convert access into expanded capabilities, empowerment, and poverty reduction.

University of Ghana http://ugspace.ug.edu.gh

2.4. Empirical review

It is crucial to include references where the topics of financial inclusion and remittances have been explored to understand their relationship with economic growth. Empirical evidence from several studies has indicated that remittances are not an important aspect of capital for economic growth, suggesting that there is no substantial connection between economic growth and remittances in developing nations (Feeny et al., 2014; Karagöz, 2009; Siddique et al., 2012). Also, researchers have investigated the nature of the connection between financial inclusion and remittances by utilizing panel datasets and time series. Other scholars argue that remittances are complementary to financial inclusion, meaning that remittances flourish in nations with advanced financial systems (Aggarwal et al., 2011; Akonji & Wakili, 2013; Gazdar & Kratou, 2012), and others have suggested that remittances offer a substitute means for financing investments and alleviating liquidity constraints (Fayissa & Nsiah, 2010; Giuliano & Ruiz-Arranz, 2009; Sobiech, 2015). Furthermore, recent investigations have analyzed the connections among economic growth, financial inclusion and remittances (Barua & Rana, 2015; Cooray, 2012; Kibet & Agbelenko, 2015; Pearce & Pelesai, 2013; Sibindi, 2014). Mundaca (2009) examined the impacts of remittances and the development of financial markets, as well as formulated a theoretical model to examine their interrelationship with economic growth. This model was applied to a panel dataset of Latin American and Caribbean countries from 1970 to 2002. His findings indicated that remittances have a positive effect on economic growth in these two sample sets. Additionally, utilising a cross-country dataset that covers approximately 100 developing nations from 1975 to 2002, Giuliano and Ruiz-Arranz (2009), considered its interaction with the financial inclusion, investigated the link between economic growth and remittances in recipient countries. The study found that remittances foster growth in countries with lower levels of financial development by

University of Ghana http://ugspace.ug.edu.gh

providing an alternative means of financing investment. Using the framework of conventional neo-classical growth theory, Fayissa and Nsiah (2010) analyzed the overall effect of remittances on economic growth, spanning an unbalanced panel dataset across 18 Latin American nations from 1980 to 2005. This research further assessed the impact of remittances in comparison to other external capital aspects like foreign direct investment and foreign aid on the financial development and economic growth of the selected economies. The findings demonstrated that remittances significantly and positively influence growth in Latin American nations with less developed financial systems by providing an alternative method for financing investments and helping to address liquidity challenges. Esteves and Khoudour-Castéras (2011) contributed to the evidence of the various impacts of large-scale migration on the economies of emigration nations, during the mass migration era from 1870 to 1913. This research examined the influence remittances and other forms of international inflows has on financial inclusion. Their results emphasized that funds transferred by migrants during this timeframe had been more significant, compared to other international capital flows, in advancing the domestic financial sector. Cooray (2012), utilizing a dataset of 94 non-OECD nations, conducted an empirical study assessing the impact of migrant remittances on two aspects of the financial sector; size and efficiency. The findings indicated that migrant remittances played a role in enhancing both the size and efficiency of the financial sectors in these countries. Imai et al. (2014), analyzing panel data from 24 countries in Asia and the Pacific between 1980 and 2009, revisited the influence of remittances on GDP per capita growth. Their study also demonstrated that the capital inflows' volatility, including remittances, enhances economic growth and contributes to output shocks. Yaseen (2012) employed a panel dataset covering the years 2000 to 2010 for a selection of Middle East and North Africa countries (Tunisia, Lebanon, Syria, Oman, Morocco, Libya, Jordan, Egypt and Algeria). The analysis utilizing a fixed

University of Ghana http://ugspace.ug.edu.gh

effects approach highlighted that institutional factors and financial development significantly influence the relationship between remittances and economic growth. Overall, the study reveals that the flow of remittances contributes substantially to domestic resources. Furthermore, remittances play a key role in reducing poverty, especially through direct effects. Analyzing data for South Asian countries from 1970 to 2008, Cooray (2012) assessed the effects of migrant remittances on economic growth. The results indicated a positive relationship between remittances and economic growth. Also, the data revealed that greater openness could facilitate increased remittance transfers into recipient countries and promote the utilization of formal channels for money transfers. Choong and Koay (2013), using dataset spanning from 1975 to 2009, investigated the relationship between economic growth and remittances, considering financial sector development in Malaysia. The results indicated that both financial development and remittances had statistically significant effects on Malaysia's economic growth in the short and long term. Additionally, Granger causality tests revealed that, in the short run, financial inclusion significantly affects remittance inflows. Utilising panel dataset of 24 African nations from 1998 to 2011, Gazdar & Kratou (2012) analyzed the impact of remittances on economic growth, employing System Generalized Method of Moment Their study found a complementary relationship between financial inclusion and remittances in fostering economic growth, indicating that remittances boost growth, particularly with advanced economies and financial sectors. Conversely, using a panel dataset across 54 developing countries from 1970 to 2010, Sobiech (2015) investigated the significance of financial inclusion and remittances, by developing a financial sector development index, which aggregates data from various existing measures that reflect the financial sector's efficiency, size, and depth. This research assessed the importance of finance as a tool for remittances to impact economic growth. The Panel Generalized Method of Moments analysis

University of Ghana http://ugspace.ug.edu.gh

revealed a negative relationship between economic growth and remittances. Karikari et al. (2016) investigated the causality between remittances and financial inclusion in select African nations, in examining the link between receipt of remittances and their influence on credit accessibility for the private sector, bank deposits, and money supply, facilitated by financial institutions. They utilized a panel dataset covering 50 developing African countries from 1990 to 2011. Their research employed the Vector Error Correction Model alongside fixed effects and random effects on the panel data. Generally, the results indicated a positive and significant impact of remittances on financial inclusion. Sarma (2012) focused on using the financial inclusion index to measure financial inclusion. He observed that developing an inclusive financial system is imperative in several countries. Although the significance of financial inclusion is notably acknowledged, this research was constrained by the absence of a comprehensive measure to evaluate the level of financial inclusion across different economies. Chowdhury (2016), using a panel dataset of 33 leading remittance-receiving developing nations, explored the influence of financial inclusion and remittances on economic growth from 1979 to 2011, utilizing various indicators of financial inclusion. The research employed the two-step General Method of Moments (GMM) technique in a dynamic panel framework, applying the fundamental neoclassical Solow growth model. Following the assessment of the data's stationarity, the findings revealed that remittances significantly enhance economic growth in the countries analyzed. Ultimately, the study identified a negligible effect of financial inclusion on the relationship between remittances and growth. Karikari et al. (2016) examined the role of remittances in promoting economic development in Africa, aiming to establish whether remittances fostered financial advancements and to analyse the causal relationship between economic growth and remittances in specific African nations. The research analyzed the connection between remittances and economic growth, as well as the impact

University of Ghana http://ugspace.ug.edu.gh

on private sector credit availability, money supply, and banking deposits managed by financial institutions. The research utilized Vector Error Correction Model approach, along with both fixed effects and random effects estimations, on panel data covering the period from 1990 to 2011 for over 50 developing countries. The results indicated that, to an extent, remittances support certain areas of financial inclusion, and that an improved financial system enhances the receipt of remittances. It was observed that, the evidence of causality prevailed in the short run, but not the long run. Chowdhury (2016) explored the advantages that remittance inflows have provided to the financial sector in Bangladesh. He utilized Vector Error Correction model alongside co integration analysis, to evaluate the link between financial inclusion and remittances His results revealed that the influx of remittances has positively impacted Bangladesh's financial system. However, there are scholars who contest the argument concerning remittances' effect on financial inclusion; for instance, by utilizing a longitudinal survey of immigrants to Australia, which included immigrants who legally relocated to Australia between 1993 and 1995, Bettin et al. (2012) analyzed the implications for financial inclusion in the country of origin, by employing a behavioral model concerning household remittances, focusing specifically on both the decision to send remittances and the amounts sent. The research indicated that a significantly ineffective financial sector in the recipient's nation could undermine immigrants' confidence and lead them to deem it a high risk to send large sums. Fromentin (2017) investigated the connection between financial inclusion and remittances, by applying panel non-causality and Granger causality tests, across Caribbean and Latin American countries. He discovered a positive and statistically significant bi-directional connection between financial inclusion and remittances. Thus, this correlation implies that increased financial inclusion leads to higher remittance inflows and higher remittance inflows lead to increased financial inclusion, supporting the hypothesis of this research and its ultimate

University of Ghana http://ugspace.ug.edu.gh

objectives. Likewise, a study focusing on specific countries by Khurshid et al. (2017) demonstrated the causal direction between remittances and financial inclusion. Following an extensive causality analysis, they concluded that a unidirectional causal relationship exists, flowing from financial development to remittance inflows. Lately, financial inclusion has emerged as a crucial aspect of financial development; many studies are now investigating the association between financial inclusion and remittances in developing nations. Utilizing system equation estimates, Toxopeus & Lensink (2007) assessed whether remittances have a growth effect through financial inclusion, discovering that remittances do promote growth via financial inclusion in developing countries. Furthermore, Anzoategui et al. (2011), employing data from 1975 to 2007, analyzed the relationship between international remittances received across 109 developing countries, and financial inclusion in El Salvador. They presented findings supporting the connection between remittances and financial inclusion.

2.4.1. Evidence from Sub-Saharan Africa

Studies indicates that remittances primarily benefit developing nations. In studies by Giuliano and Ruiz-Arranz (2009) and Freund and Spatafora (2008), it was discovered that when remittances are invested in productive ventures within an effective financial system, they can complement investments and yield higher returns. However, other research presents a different viewpoint, suggesting that regardless of the channels utilized, remittances aid in both economic growth and financial inclusion (Aggarwal et al., 2011; Demirgüç-Kunt et al., 2011; Mundaca, 2009; Rao & Hassan, 2011). Demirgüç-Kunt et al. (2011), specifically, contend that remittances enhance financial inclusion due to a positive correlation between savings and remittances, which consequently boosts bank lending. Similarly, Mundaca (2009) asserts that remittances, financial

University of Ghana http://ugspace.ug.edu.gh

inclusion, and financial development must work together to foster economic growth. In this light, it aligns with the findings of Nyamongo et al. (2012) regarding Sub-Saharan Africa. Conversely, using a panel data set of 50 selected African countries, Karikari et al. (2016), studied the causal relationship between remittances and financial inclusion, concluding that a reciprocal relationship exists; an inclusive financial system facilitates increased remittance receipts, while remittances enhance certain aspects of financial inclusion. Using various econometric tests, Odeleye & Olusoji (2016) examined the long-term relationship between economic growth and financial inclusion in Nigeria from 1981 to 2014. Their model revealed that liquidity ratio, money supply, and credit to the private sector are significant contributors to economic growth. The study further confirmed its hypothesis that financial inclusion has a positive effect on national growth. A country-specific investigation by Oke et al. (2011) explored the relationship between the development of the financial sector and remittance inflows in Nigeria, spanning 1977 to 2009. They found that remittance inflows positively influenced financial inclusion across all the other variables understudied except for the ratio of private credit to Gross Domestic Product. Through dynamic panel estimation, Chowdhury (2016) posited that remittances can significantly promote growth, albeit not concerning financial variables. He suggested that a more inclusive financial system tends to attract greater remittance, which is a useful finding for enhancing the effective use of remittances in Sub-Saharan Africa. Additionally, utilizing survey data involving around 10,000 households across 5 Sub-Saharan African nations, Uganda, Senegal, Nigeria, Kenya and Burkina Faso, Aga & Martínez Pería (2014) examined the influence of remittances on financial inclusion in these nations. Their findings indicated that international remittances enhance the likelihood of households opening a bank account in all 5 Sub-Saharan African countries. A study by Adesote and Osunkoya (2018) suggests that remittances account for approximately 20% of the GDP in

University of Ghana http://ugspace.ug.edu.gh

Africa, although these statistics considers formal remittances only. There is an estimate that over half of the remittances sent to Africa are not documented due to various reasons, including the high expenses associated with transferring funds to Africa. Adepoju (2004) noted that 2.5 million migrants remitted back USD 618 million to Senegal, representing one-third of Senegal's annual budget for that year. This number has significantly increased since then, yet informal remittances are still not included in this total. The number of remittances flowing into Nigeria through unofficial channels exceeds the recorded figures (Adeagbo & Ayandibu, 2014). Consequently, the Gross Domestic Product of the continent could rise to around 40%, with a substantial portion destined for Sub-Saharan Africa, if measures to enhance financial inclusion in Africa were implemented. Nigeria, identified as one of the highest recipients of remittances globally, is situated in this sub-region. The 'Giant of Africa' received almost 20% of worldwide remittance inflows, accounting for almost 65% of the sum of all the remittances sent to Africa, as reported by World Bank (2014). This confirms that funds are accessible in the sub-region and simply require effective utilization, as the government currently lacks a visible strategic approach toward the proper use of remittances, which is an issue this study seeks to tackle. A study by Ekwe & Inyiama (2014) suggested that foreign capital inflows positively impacted economic development. He analyzed data sourced from the Nigerian Bureau of Statistics, World Bank, and Central Bank of Nigeria, to assess economic growth related to remittance inflows from 1982 to 2012. Akonji & Wakili (2013) studied the influence of net migrant remittances on economic development in Nigeria, considering the costs associated with transferring these remittances. They employed Error Correction Model and Seemingly Unrelated Regression analysis on time series data from 1980 to 2010. Their findings revealed a notable connection between economic growth and net remittances, however, at a household level, it gave different families with immediate income. The conclusion drawn from

University of Ghana http://ugspace.ug.edu.gh

the study was that remittances play an important role in fostering economic growth in Nigeria. Scholars such as Docquier et al. (2007) provide support for the earlier discussion on the relationship between remittances and economic growth. The World Bank (2022) suggests that remittances transferred through banks can boost investments and savings, leading to improved economic conditions. In contention, Fayomi et al. (2015) examined the effects of remittances from Ghana on recipients in Nigeria. They concluded that enhanced financial sector is a vital factor in drawing additional remittances into the economy. Aboulezz (2015), in separate research, explored the link between economic growth in Kenya and remittances, discovering that the remittances received in Kenya possess a potential to influence the country's economic growth.

2.5. Contexualising remittances

Remittances are defined by the European Parliament & Council of the European Union (2014) as private, voluntary monetary and non-monetary transfers made, either individually or collectively, by migrants to individuals or communities that may not necessarily reside in their countries. According to the International Monetary Fund (IMF) (2019), funds migrants send back to their country of origin from new economies are called remittances. The International Organization for Migration (IOM) (2022) describes remittances as the money sent by migrants abroad to their families back home. The World Bank (2014) characterizes remittances as the transfer of funds from people in one nation to another. Two key aspects persist across these definitions: remittances are sent back to home countries by migrants located abroad, and the recipients of the funds are primarily their family and friends back in their home countries. Notably, remittance flows are not exclusively one directional; they can also occur in reverse, where financial support comes from the migrant's home country to the migrant abroad, assisting with expenses like housing and

University of Ghana http://ugspace.ug.edu.gh

education (Alvarez-Tinajera, 2013). However, the predominant trend involves remittances being sent from migrants in wealthier nations back to their countries of origin. Developing nations often face vulnerable economies that are susceptible to economic disturbances (IMF, 2022), exacerbated by global financial issues such as crises. The challenging economic situation in developing countries prompts their citizens to seek opportunities elsewhere, often in developed nations, to sustain their livelihoods. Consequently, the brain drain results in a transfer of human capital from developing to developed countries, which is then compensated through remittances by the migrants. Remittances are considered one of the most reliable sources of financial support for developing economies, in contrast to those that are developed. When comparing the inflow of remittances between developing and developed countries, it is evident that developing countries generally have a greater number of remittance recipients, as millions of their workers migrate to developed nations in search of improved living conditions rather than the opposite. Remittances follow foreign direct investments as the second most significant type of external funding for developing economies, as indicated by the Asian Development Bank (2022). In 2019, remittance inflows attained a record high of USD 548 billion in low and middle-income economies, surpassing foreign direct investment which were USD 534 billion, and foreign developmental aid amounting to USD 166 billion (World Bank, 2020). Among the benefits that remittances offer compared to other types of external funding, is their stability and usefulness to governments in mitigating external economic crises (Nahar & Arshad, 2017). Freund and Spatafora (2008), in their definition of remittances, referred to three components within the balance of payments framework: "migrants' transfer", "compensation of employees" and "workers' remittances". However, referencing the balance of payments implies that all discussions surrounding remittances pertain to formal remittances that have gone through official channels. The IMF considers remittances as

University of Ghana http://ugspace.ug.edu.gh

funds migrants employed in other nations send back to home countries (Kihangire & Katarikawe, 2008). The African Development Bank (2022) defines remittances as regular payments sent across borders, which constitute a portion of the wages earned by migrant workers and are sent to home countries. Addison (2005) enhances this discourse by describing remittances as inflows, such as funds, to households that do not necessitate an exchange of economic value between the sender and the recipient. Essentially, these remittances are often not anticipated to be repaid, either in monetary terms or through goods. They serve as income sources for families, regardless of their economic status. Nonetheless, in agreement with Quartey (2006), the advantages extend beyond individual households to benefit the nation collectively at local, state, and national levels. Remittances constitute a significant portion of foreign transfers in developing nations, from migrants in developed nations. Remittances have emerged as an effective means of alleviating poverty in developing regions. The World Bank (2022) highlighted three main advantages of remittances, which are facilitating smooth consumption, supporting investment, and helping to combat poverty, while providing critical support during periods of economic hardship, as noted in Zimbabwe by Wines (2007). Freund and Spatafora (2008) categorized remittances into two forms: formal and informal. Formal remittances refer to those sent through documented channels such as banks and regulated money transfer operators. Conversely, informal remittance channels encompass all unregulated methods of sending money, including individuals physically transporting funds or using friends, family members, or other unofficial courier services (Pieke et al., 2007). Informal remittances refer to funds sent by migrants from abroad that bypass official channels such as banks, thus escaping proper recording by institutions like the World Bank. Historically, figures on informal remittances have consistently surpassed those of formal ones. Choucri (1985) discovered that in Sudan, nearly 90% of remittances in 1983 were sent through

University of Ghana http://ugspace.ug.edu.gh

unofficial means. According to estimates from the World Bank (2014), around 50% of global remittances are undocumented. This phenomenon primarily occurs because, as noted by Chisasa (2014), these unaccounted remittances often reach the destinations via friends of the migrants or through traditional methods like Chiti or Hawala, which involve cash being disbursed in the recipient nation as a result of a transaction in the host nation. Passas (2000) further explained that using informal remittance-receiving means does not necessarily mean transporting physical cash; instead, it can involve transferring its equivalent value. One of the most prevalent methods of informal money transfer is hand-carrying, where the migrant transports the cash personally back to their home country, where it is exchanged for local currency, incurring only the cost involved for conversion. Conversely, a paper discussing Africa and Europe outlined four primary forms of informal or alternative remittance channels. These include hand-carrying, remittances sent in conjunction with other business dealings, the utilization of specialized money transmitters, and a mechanism where migrants do not carry cash themselves but enlist a relative traveling back home to their country of origin to deliver the funds to the intended recipient (De Vletter, 2007). Some Africans residing in Europe would visit airport terminals on days when specific flights were departing, requesting travelers bound for their home countries to carry funds to their families (Bazenguissa-Ganga, 2005). Maphosa (2005) also recognized the role of taxi drivers in South Africa in carrying funds to the relatives of Zimbabweans, in a study on Zimbabwean migrants in South Africa. Additionally, remittance transfers have proven to be a common informal method among Africans and their relatives abroad. As discussed by Jettinger (2005), in the case of Senegal, it was observed that Senegalese individuals in parts of Europe would send money to family members at home through the assistance of traders and businessmen returning to Senegal to conduct purchases or financial transactions. Dedicated money transmitters represent another type

University of Ghana http://ugspace.ug.edu.gh

of informal remittance avenue. These small enterprises compete with established companies like MoneyGram and Western Union, emerging to meet the needs of families of migrants living in remote areas with limited or no bank access. Such dedicated money transmitting businesses flourish primarily due to repeat customers who rely on them based on referrals, local radio mentions, or newspaper advertisements. Another form of transfer mechanism that exists outside the mainstream includes various innovative methods for sending remittances, such as utilizing credit unions and microfinance institutions as agents for fund transfers. This approach would also support the growth of these businesses, as more individuals, including migrants and their families back home, would be drawn to the avenues offered by microfinance institutions and credit unions. The expenses associated with sending remittances globally significantly influence the choices made by migrant workers regarding the amount of money they send. Generally, the greater the expense of transferring money, the less financial support these migrant workers are likely to provide to their home country. Therefore, elevated remittance transaction fees may discourage migrants from sending money home or reduce the amount they would choose to send if the transaction costs were more reasonable.

2.5.1. Remittances in developing economies

In light of this, Freund and Spatafora (2008) noted that elevated costs for sending money discourage individuals from using formal channels, leading them to choose alternative unofficial remittance methods that are less expensive but not documented. This indicates that an increasing number of migrant workers are opting for unofficial remittance options due to the higher costs associated with official sources. Logically, one might assume that a decrease in the transactional costs would encourage senders to increase their transfers; however, Freund and Spatafora (2008)

University of Ghana http://ugspace.ug.edu.gh

found that the overall volume of remitted money does not change with lower transaction costs. In contrast, UNESCAP (2019) held a different view, asserting that a negative cost-elasticity exists concerning remittance transaction costs, consistent with the law of demand where lower prices result in a greater quantity demanded. This idea was further supported by a study by Gibson et al. (2007), which argued that lowering the cost of remittance transfers would result in higher remittance amounts. They observed that when competing remittance services lower their sending and receiving costs, they tend to attract more customers than those with higher fees, as reduced remittance rates draw remitters seeking to minimize their costs. Aycinena et al. (2010) reached a similar conclusion in their study on remittances between El Salvador and the United States, where they found that a USD 1 decrease in transaction fees could incentivize senders to transfer an additional USD 25. This behavior is attributed to the altruistic motivations of individuals abroad who wish to support their families back home, leading them to invest the savings from reduced remittance costs in their loved ones instead of retaining it. A limitation of the Aycinena et al. (2010) study is that, it did not take into account informal transfer channels, lacking a comparison or mention of remittance transfer costs in the unofficial market. Their research focused exclusively on the costs associated with formal remittance transfers between United States and El Salvador. Essentially, assessing the costs related to informal remittance channels would likely have a significant impact on their findings, providing readers with a comparative basis to evaluate whether reductions in official remittance fees align with or fall below those of informal channels. Consequently, this comparison would offer additional reasoning for an increased volume of transfers through official avenues when the costs are lower or equal to those unofficial options. According to UNESCAP (2019), lowering the formal costs associated with remittance transfers would likely result in a reduction of costs for informal remittance channels, potentially eliminating

University of Ghana http://ugspace.ug.edu.gh

them altogether. Decreasing formal remittance costs not only benefits recipients but also supports both national and global economies. A reduction in transaction costs for remittances implies that unofficial channels could become obsolete, thereby minimizing the risks connected with transferring funds through these unregulated methods, which increases transparency as all official remittance transfers are documented and decision-makers receive reliable data for informed policy-making. Unfortunately, despite extensive documentation on the benefits of lowering remittance costs, international remittance transfer fees remain unacceptably high. The transaction costs for sending money globally differ based on countries and regions, with Sub-Saharan Africa facing the highest transaction costs for remittances, and Asia enjoys the least (Freund & Spatafora, 2008). A key aspect of the discussion surrounding official remittance channels is the expense associated with sending funds from one country to another. The United Nations' Sustainable Development Goals' aim for a transaction cost of 3% for sending USD 200 and a maximum of 5% for all remittances (World Bank, 2016). Currently, according to World Bank (2020), the average cost to send USD 200 worldwide stands at 6.75%, with Sub Saharan Africa experiencing the highest mean of around 9%. Following the framework established by the G8, the World Bank is actively collaborating with the G20, to enhance remittance flows and lower the costs of sending money. Despite these initiatives to decrease transfer costs, remittances have notably remained costly, resulting in more migrant workers opting for informal channels to send remittances.

2.5.2. Socio-economic effects of remittances

The primary criticism of remittances to Africa is the issue of brain drain. Brain drain, also known as capital flight, refers to the intentional decision by skilled professionals from a particular country to relocate to another nation due to inadequate compensation for their skills. According to Adesote

University of Ghana http://ugspace.ug.edu.gh

and Osunkoya (2018), the concept of brain drain is a result of the push and pull factors of international migration. Most individuals who migrate and subsequently send substantial remittances primarily come from developing nations like those in Sub-Saharan Africa. These nations encounter numerous economic and political challenges such as corruption, political instability, insufficient basic amenities, and inadequate infrastructure. A country that faces such issues is likely to struggle in retaining its skilled workforce, leading professionals, namely, lawyers, engineers, doctors, engineers and architects, to seek improved salaries and a better quality of life in other nations where they can receive better pay and benefits compared to their home country. Countries in the western hemisphere offer political stability, favorable working conditions, attractive compensation, and various other advantages that entice these skilled individuals to migrate. These Africans are in pursuit of better opportunities abroad. Consequently, educational institutions in Africa are increasingly becoming mere training grounds for professionals who ultimately work elsewhere. As noted by Adesote and Osunkoya (2018), Africa loses USD 4 billion each year to hire 100,000 expatriates from developed countries for technical assistance in Africa because the local skilled workforce capable of performing these tasks has already emigrated. While it may be tempting to argue that the remittances these professionals send back to Africa can offset the negative effects of brain drain, various African scholars contest this perspective. According to Ratha (2008), if those who could contribute to Sub-Saharan Africa continue to emigrate in search of better opportunities, the continent will remain mired in poverty, social unrest, and persistent hunger. Similarly, Adesote and Osunkoya (2018) highlighted that a nation's development is hindered if its most talented individuals consistently leave in search of higher living standards. Furthermore, Ratha (2008) asserted that the "feedback loop" created by the migration of these professionals exacerbates the situation, as fewer skilled individuals remain

University of Ghana http://ugspace.ug.edu.gh

to contribute to the system, resulting in a continual decline in conditions across Africa. This notion aligns with Onsando's (2007) argument that the increased HIV/AIDS prevalence in Africa is linked to the shortage of doctors, as many of the medical professionals who should be addressing the crisis have departed the region. For a country to retain its qualified workforce after training, Ratha (2008) proposed various strategies, including but not limited to, systems of incentives and motivation. Higher salaries are a primary reason that these skilled professionals migrate from their home nations. UNCTAD (2012) states, "the salary disparity is such that wages in developed destination countries can be up to 20 times greater than those in LDC countries of origin." Thus, to retain the qualified workers, it is a necessity to establish a better incentive and motivation system. In this vein, before considering migration in search of better opportunities, skilled laborers would contemplate whether the prospects abroad are truly better. Moreover, export management is an effective approach for mitigating, if not eliminating, the impact of brain drain. This strategy entails an agreement between skilled laborers and their home nation to send a portion of their income back home to their relatives. For example, Eritrea has implemented such a system. Additionally, increasing retirement ages could also motivate qualified workforce to remain in their home countries. Many countries have a mandated retirement age, so to motivate more qualified workforce to remain home, it is essential to extend the retirement age beyond that of the more attractive destination countries. Furthermore, compulsory service programs can also serve as a powerful means to deter skilled workers from emigrating. This might involve an agreement between educational institutions and professional organizations that requires no qualified professional to migrate from the country for a specific period after completing their education, thereby ensuring mandatory service in their home country post-training. Lastly, return management encourages professionals from abroad to come back to their home countries to

University of Ghana http://ugspace.ug.edu.gh

contribute to their development. Both the International Organization for Migration (IOM) and governments of Sub-Saharan African nations should enhance their efforts in this area. Challenges regarding the effective use of remittances persist. Therefore, this study advocates for financial inclusion as a means to ensure that the negative effects of brain drain on Sub-Saharan Africa are effectively mitigated through proper utilization of remittances. According to UNESCO (2019), the literacy rate remains notably low in Sub-Saharan Africa, especially since many professionals are recruited by companies in the West that promise improved living standards, superior job conditions, better retirement options, and improved overall well-being. Consequently, many individuals left in SSA are either inadequately qualified for the job market in the West or are simply awaiting the perfect chances to migrate from the sub-region. Whichever the case may be, the literacy levels of the population in Sub Saharan Africa are likely to remain disappointing. UNESCO (2019) reports that there are 32 million children in Sub-Saharan Africa who are school-dropouts, which represents over half of the total number of children who are out of school worldwide. This statistic indicates that for every five out-of-school children globally, at least one resides in Sub-Saharan Africa. Consequently, this region has the highest rate, representing 19% of the total, of basic school-age children experiencing non-inclusion. Additionally, Sub-Saharan Africa also has the highest percentage of adolescents who are school dropouts, at 37%, amounting to 28 million individuals. Furthermore, over half of all young individuals in the sub-region are not attending school. Tragically, the gender disparity is prominent in those statistics, with 4 million girls projected not to attend school compared to 2 million boys. These figures have remained consistent over the past decade, posing a significant threat to progress if urgent action is not taken. However, the potential benefits of financial inclusion could significantly improve this situation. By gaining access to financial services, individuals can explore a variety of options such as

University of Ghana http://ugspace.ug.edu.gh

investment opportunities, savings, loans and mortgages, requiring these individuals to acquire knowledge to leverage these benefits. Much of the knowledge gained through financial inclusion can be utilized in daily life, through choices related to investments and savings as well as in entrepreneurship. To add, financial inclusion has the ability to enhance literacy levels by 10% (Orozco & Fedewa, 2005). Many migrants abroad lack formal documentation, and numerous developed countries that attract migrants from Sub-Saharan Africa have stringent immigration policies, as seen during the United States Trump administration. As a result, migrants may overstay their visas and risk being arrested and deported. To evade deportation, they often take low-skilled jobs which do not match their qualifications, simply to make a living and send money back home. According to Ratha (2003), to avoid deportation, these individuals may either shun financial inclusion due to not having enough funds to meet the minimum requirements set by financial institutions in the host nations or because they lack the necessary legal identification to open and own bank accounts. In either case, they are likely to resort to informal means of transferring funds to back home, which in turn leads to their relatives also using informal means to receive the money sent from abroad. Ultimately, this results in consistently high transaction costs for remittances, and informal remittance figures remain higher than those of formal remittances.

INTEGRI PROCEDAMUS

2.5.3. Growth effects of remittances

A number of studies have explored the impact of remittances on income distribution by comparing income levels with and without remittances (Barham & Boucher, 1998; Knowles & Anker, 1981) or by analyzing measures of income inequality from various sources (Adams & Alderman, 1992; Stark et al., 1988). These studies yield conflicting results concerning the influence of remittances on inequality. Stark et al. (1988) offered a theoretical framework to explain these discrepancies.

University of Ghana http://ugspace.ug.edu.gh

They contend that the initial phase of rural out-migration can often involve significant costs and risks, particularly for international migration. Disparities can be observed among individuals, nations, and regions, with the banking industry being a significant contributor to inequality, among other factors. Access to financial services is viewed as a privilege of the wealthy, while the less fortunate often remain excluded. Data indicates that 90% of the global population lacks access to official or unofficial financial systems (Gautam, 2019). 94% of the total population of adults in high-income economies have bank accounts, in contrast to just 23% in Africa, according to Demirgüç-Kunt & Klapper (2012). Recognizing that around 2.5 billion adults are unable to access banking services and approximately 200 million small and medium scale businesses in emerging economies struggle to obtain affordable financial services and credit, the World Bank outlined a global mission for universal access to financial services. According to World Bank (2013), achieving this objective would represent a significant advancement in financial inclusion globally, providing an opportunity where everyone can obtain the necessary financial services to lessen inequality and vulnerability. Factors such as inequality, the quest for better opportunities, and the pursuit of wealth drive individuals from developing nations to migrate to developed regions, often undertaking perilous journeys such as crossing seas, leaving behind family members with the goal of enhancing their living standards through remittances. Furthermore, there exists a disparity in both the recipients of remittances and the distribution of migrants. Research in developing economies indicates that the most of the migrants in industrialized nations are males (Deere et al., 2015). Due to demographic trends, men are generally more inclined to send back remittances than women in these contexts. Nevertheless, certain factors can motivate females to remit more than their male counterparts. In an insightful study on gender and remittance patterns among siblings, Curran (1996) found that daughters in Thailand are more likely to send remittances as a means of

University of Ghana http://ugspace.ug.edu.gh

supporting their inheritance claims, while sons often feel less compelled, viewing inheritance as a guaranteed right. Further research (IOM, 2009; UNDP, 2009) have suggested that, regardless of age discrepancies between genders, women typically remit more than men. Data examining both the senders and recipients of remittances based on gender is relatively limited; some studies attempting this include Adams (2006) and Pfeiffer & Taylor (2008). Obtaining accurate data on the gender of remittance recipients is challenging, as senders may direct funds to multiple family members, complicating the tracking of who utilizes those remittances (Deere et al., 2015). Additionally, researchers such as Wong (2006) have identified that there are often inconsistencies in the data regarding the amounts received by remittance beneficiaries from their relatives overseas. For example, many recipients are reluctant to disclose that they have received money, much less the specific sums involved. These factors further complicate the undertaking of thorough studies on gender and remittances. Orozco et al. (2005) found that male migrants are generally more likely than their female peers to hold bank accounts in both home nations and host nations. Consequently, female migrants have limited opportunities for savings and even less for asset accumulation. This situation adversely affects their potential for empowerment, as crucial resources for significant gains are unavailable to them. Marital status significantly influences the amount women remit, as demonstrated in research by Afsar (2011) and Muliaina (2005). In a study of Samoan migrants in New Zealand, Muliaina (2005) noted that many surveyed females were single and sent back majority of their income, but this changed after marriage, as their focus shifted to their immediate family, resulting in decreased remittances. Additional research, such as that by Petrozziello (2013), supports the idea that families often prefer female migrants over males. Despite the growing migration rate to various parts of the world from Africa, the proportion of male migrants, in contrast to females remains relatively high (Deere et al., 2015). This suggests

University of Ghana http://ugspace.ug.edu.gh

that if migration resulting in remittance inflows is viewed as a solution for development, gender inequality will persist to the detriment of women. In developing nations, income distribution among women is not as favorable as it is for men (Davies, 2011), a situation influenced by various factors, including the fact that many developing economies, particularly in Africa, are patriarchal, where men hold decision-making power over key factors that contribute to wealth creation. Thus, pursuing financial inclusion through remittances could help attain SDG 5, which aims for gender equality, because it enables more females to access finance, creating greater savings opportunities and fostering economic growth. According to Kabeer (1999), for women to gain empowerment – defined as their ability to accomplish what they have previously been denied – their control over resources is essential, and one of the simplest ways to access such resources is through reliable and unhindered remittance flows from migrants abroad.

2.6. Financial inclusion

This concept is termed as the process of ensuring access to adequate and affordable financial services in timely manner by vulnerable groups like low-income groups (Government of India, 2008). The primary components of this definition highlight the necessity of affordable financial services being available to the poor. This definition aligns with the assertion (Singh & Roy, 2015) that there are three key aspects of financial inclusion: "the ability to access banking services, access to affordable and timely credit, and access to financial literacy programs that educate individuals on maintaining a sound financial life". Despite extensive research on financial inclusion and its macroeconomic implications, a significant lack of studies remains in this field (Demirgüç-Kunt et al., 2018). There are both supply and demand facets of financial inclusion (Singh & Roy, 2015). The first aspect which is the supply aspect, pertains to financial institutions providing access to

University of Ghana http://ugspace.ug.edu.gh

financial services for all eligible users for them to take advantage of and utilize. It encompasses the creation of credit facilities, regardless of size, and the opening of bank accounts, among others. Consequently, financial services may be available, yet people might not utilize them. Kumar's (2005) study examined how many individuals had availed themselves of financial services in Brazil. Her research indicated that among those sampled who did not possess bank accounts, one-third deliberately chose not to open one, claiming they had no need for it. Nevertheless, the potential for financial services to foster economic growth and development through financial inclusion persists. On the flip side, the demand aspect of financial inclusion relates to the absence of essential services from financial institutions for certain populations. Consequently, such groups are excluded from economic opportunities, as lacking access stunts growth and development. For this paper, our emphasis will be on the demand side of financial inclusion. Approximately 54% of the total population of adults in Sub-Saharan Africa were unbanked in 2014, while around 14% had access to one form of mobile money service or another (Demirgüç-Kunt et al., 2018). 34% of qualified individuals had access to mobile money services and 43% of adults held bank accounts in Sub-Saharan Africa in 2014 (World Bank, 2019). These figures indicate a large segment of the population in Sub-Saharan Africa continues to face financial exclusion. Beck et al. (2005) provided several indicators concerning access to financial services, which included loan sizes, average deposit amounts, use of loans, and predicted shares of families with functional bank accounts, using limited data for the share of bank accounts, while also delimiting this to the average account size in USD and deposit accounts per 100,000. Since the specific measure specifically relates to the use of transaction services and formal savings, it is regarded as the most efficient indicator for assessing the utilization of financial services and is hereby relevant in this context. Incorporating this element will establish the timeframe required. Each country's time frame is set at one year,

University of Ghana http://ugspace.ug.edu.gh

allowing for cross-sectional evaluation. Financial inclusion can be achieved by efficiently utilizing emerging financial technologies, commonly referred to as fintech (Hughes, 2021). Examples of such fintech innovations include mobile banking online, blockchain, cryptocurrencies such as Bitcoin and Ethereum, and others. Numerous nations in Africa have adopted cryptocurrencies as a means of preserving value due to their ineffective implementation of policies aimed at enhancing their local currencies. Between 2017 and 2018, several African countries embraced cryptocurrencies as a means of value preservation, with Zimbabwe emerging as having the highest demand for Bitcoin on the continent, followed by Nigeria. There was an astounding 1500% surge in cryptocurrency usage in Nigeria, a growth rate surpassed only by China, the most populous nation that year. Sapovadia (2018) suggested that these innovations possess the likelihood to get to underserved populations, as evidenced by their current implementation in countries such as Brazil, Nigeria and India. The author mentions that one of the factors contributing to financial exclusion is the high cost of small-scale financial transactions using traditional financial services, which individuals in rural regions of developing areas, particularly in Sub-Saharan Africa, may find unaffordable. However, considering the emergence of fintech, many financial transactions that used to incur substantial costs can now be performed for minimal or no cost. The primary objections from African governments and in various regions worldwide, concerning the use of crypto, stem from their absence of a central regulatory authority, the perceived opportunity for rapid wealth accumulation, and the intricate nature of the technologies involved. In a review of 39 African nations and their approach to cryptocurrency, Ecobank (2018) found that only Swaziland and South Africa have policies that favor its usage. In contrast, several Sub-Saharan African nations, including Burundi, Namibia, and more recently Nigeria, have taken steps to prohibit cryptocurrency, hindering the potential acceptance of these fintech tools and their advantages for

University of Ghana http://ugspace.ug.edu.gh

financial inclusion among underserved communities throughout Sub-Saharan Africa. To address the ongoing neglect of these emerging financial technologies, it is crucial for legislators to tackle the regulatory challenges associated with these technologies to appropriately leverage their benefits for financial inclusion in the Sub-Saharan African region. Notable studies (World Bank, 2008) contend that despite efforts to thoroughly document informal remittances in Sub-Saharan Africa, formal remittances have not been fully optimized. This situation is attributable to several factors, including political instability, illogical and poorly formulated remittance policies, corruption, bureaucratic inefficiencies, an over-dependence on a single economic sector, and insurgency issues in certain parts of Sub-Saharan Africa (Adeagbo & Ayandibu, 2014; Odozi et al., 2010). Even with the absence of errors, integrating financial inclusion into the discussion suggests that the objective of financial inclusion remains valid, even if existing unrecorded remittance inflows are formalized but not fully leveraged, as seen in Sub-Saharan Africa. This is because financial inclusion would still provide access to financial services for those who have been excluded from the financial system in Sub-Saharan Africa, leading to the opening of more bank accounts, increased financial literacy among the populace, and greater availability of financial products through financial inclusion.

INTEGRI PROCEDAMUS

2.7. The present state of Sub-Saharan Africa

Concerning the world's poorest individuals, Chen and Ravallion (2004) characterized Sub-Saharan African residents as experiencing the deepest levels of poverty and having the highest rates of extreme poverty since the early 1980s, according to World Bank's working paper. This classification refers to the individuals who spend on less than USD 1 a day. Consequently, Odozi et al. (2010) contends that a significant ongoing challenge faced by the sub region is how to

University of Ghana http://ugspace.ug.edu.gh

effectively reduce poverty. According to World Bank (2014), over 24% of the world's poorest individuals reside in Sub-Saharan Africa. The annual growth of population in the region is around 2.6%, which translates to roughly 130 million more impoverished individuals in Sub Saharan Africa (World Bank, 2019). In 2015, the majority of the world's poorest were found in this region, a figure surpassing the total of the combination of every other region of the whole world. Additionally, projections from the World Bank are that, by 2030, poverty levels in Sub Saharan Africa are likely to continue to be in double digits. To complicate the situation further, the resources necessary to combat poverty in the area are either inadequate or non-existent. Moreover, the World Bank indicates that, with a demographic of 151 million young individuals aged 15-24, Sub-Saharan Africa must generate at least 15 million jobs annually. This figure is challenging, if not unachievable, resulting in a continued state of poverty for most of the population. Furthermore, all other metrics for evaluating poverty, like, Gross Domestic Product per capita growth, Gross National Income per capita, literacy rates, and life expectancy at birth, would also see an upward trend. The World Bank (2019) reported that out of the 840 million individuals globally without access to electricity, 570 million reside in the sub region. The ideas of remittances and migration are not independent of each other (Adeagbo & Ayandibu, 2014). Any scholarly publication of remittances would be incomplete without referencing migration, since the discussion on remittances arises from the context of migration. Various researchers, including Odozi et al. (2010) and Kapur (2004), highlighted the significance of remittances in growth, with the latter referring to them as the 'new development mantra'. This indicates that many other researchers analyzed in this study recognize the potential of remittances to contribute to the development of the recipient nation. Concerning the link between remittances and migration, it is argued that remittances serve as a means for impoverished households to escape poverty and hardship (Gustafsson & Makonnen,

University of Ghana http://ugspace.ug.edu.gh

1993). This study on migrants from Lesotho indicates that the funds sent by relatives who have migrated abroad, whether from the neighbouring country of South Africa or nations across the Atlantic, significantly assist these households in meeting their needs for food, shelter, and other essentials. Recognizing that economically disadvantaged individuals in developing nations, such as Sub-Saharan African countries, heavily rely on remittances from relatives who have migrated, for their sustenance, it is crucial for this study to address the literature gap regarding how remittances can be effectively utilized to foster economic growth. The proposed solution lies in financial inclusion. The argument presented is that greater financial inclusion will correlate with a rise in remittances, therefore indicating a positive association. Consequently, many additional benefits may also emerge, with the most significant being a decrease in the costs associated with remittances for migrants. Another advantage of financial inclusion is the advancement of the financial sector within the country. Additionally, this enhances public awareness, making individuals more knowledgeable about the savings options and other financial instruments available to them, through banks and other financial institutions. The synergy between remittances and financial inclusion will further contribute to rural development, particularly through job creation. Moreover, financial inclusion has the potential to improve infrastructure, including technological advancements and amenities such as roads. Unfortunately, Sub-Saharan Africa incurs the highest remittance costs of any global region (World Bank, 2022), which is particularly ironic given that it is one of the world's poorest areas. Numerous factors contribute to the elevated costs of sending remittances in this region, including inadequate infrastructure development (Irving et al., 2010), a lack of trust among migrants in financial institutions (Maimbo & Ratha, 2005), and the potential for these avenues to facilitate money laundering (Shehu, 2012), especially in light of concerns that such channels may be used to fund terrorist organizations.

University of Ghana http://ugspace.ug.edu.gh

2.8. Literature review summary and gap

The review shows that there are limited studies on the short and long run effects financial inclusion and remittances on economic growth in the Sub-Saharan African region. It is noteworthy to mention that the empirical evidence in the literature is skewed to the developed economies, with fewer studies for emerging economies. This study broadens the scope by investigating this relationship to cover a wide range of the Sub-Saharan Africa region.



University of Ghana http://ugspace.ug.edu.gh

CHAPTER THREE

3.0. Methodology

3.1. Introduction

This chapter specifies the methodology used to explore the nexus among remittances, financial inclusion and economic growth in the study.

3.2. Research approach

Research approach is a significant aspect of any study, serving as a blueprint that prescribes the methods and procedures to be employed in conducting research. It covers various components of the study such as the research questions, the variables understudied, sample selection, data collection methods, data analysis techniques, and entire structure of the study. Based on the objectives of this study, a quantitative research approach is adopted. The quantitative research approach involves gathering numeric data and using mathematical models to demonstrate relationships to make inferences. Creswell (2009) explains that the quantitative research approach helps to gather, analyze, and predict the nexus between variables. According to Bryman (2016), the quantitative research approach is the collection of numeric data to explain the occurrence of a particular phenomenon. This approach is suitable for the study in order to explore the causal relationship among the variables. More specifically, the quantitative approach enables a better understanding of the effect financial inclusion has on the relationship between remittances and economic growth in Sub-Saharan Africa, in order to make useful and valid conclusions that can impact policy and academia.

University of Ghana http://ugspace.ug.edu.gh

3.3. Data

This study uses panel data for 34 countries in Sub-Saharan Africa, as seen in Appendix, over the period 2010 to 2020. The selection of these nations is grounded in the relevant publications of their significant remittances received throughout the specified timeframe. According to World Development Indicators (WDI) (World Bank, 2015, 2017), between 2000 and 2015, Senegal, Mali and Nigeria reported the highest total remittances. The chosen study period, from 2010 to 2020, corresponds to an exceptional rise in both the remittances received during this time and the number of emigrants. According to International Migration Report (2020), it has been reported that an annual average of migrants was documented as 4.65 million from 2000 to 2020, in contrast to 2 million between 1990 and 2000. According to World Development Indicators (World Bank, 2015), Lesotho had an average rate of annual remittances of 41.3% of total Gross Domestic Product from 2000 to 2013, which is unquestionably the highest among all Sub-Saharan African countries. The other countries included in the study were chosen due to their common availability of data. Standard variables in growth literature, namely, broad money supply, foreign direct investment as a percentage of Gross Domestic Product, trade openness, population growth, and inflation rate, are incorporated as explanatory variables. Table 1 details the definitions and measurements of the variables utilized in the study. To account for the relative economic disparities within the countries, broad money supply and remittances are adjusted based on GDP. All variables are sourced from the World Development Indicators database. This study acknowledges the potential limitations inherent in cross-country panel data, particularly regarding missing values and measurement inconsistencies across Sub-Saharan African countries. To address missing data, multiple imputation was applied as an appropriate technique to minimize bias and improve the robustness of the analysis because data are missing at random, and to reduce biases. Although measurement

University of Ghana http://ugspace.ug.edu.gh

inconsistencies due to varying data collection standards across countries may exist, efforts were made to use data from widely accepted and reputable sources such as the World Bank.

3.4. Variable description

This research adopts the ratio of broad money supply to GDP as an indicator of financial inclusion, in contrast to previous approaches that emphasized private sector credit to GDP, in line with the work of numerous earlier researchers, such as, Goschin (2013) and Sobiech (2015) who have also focused on broad money supply. Broad money encompasses currency held outside of banks, savings accounts, demand and time deposits, and foreign currency holdings within a nation. Beyond the preference for broad money supply to GDP shown in many prior research as a metric for financial inclusion, broad money constitutes a larger portion of GDP compared to private sector credit justifies its selection, instead of private sector credit to Gross Domestic Product. Additionally, trade openness is represented as "TO", inflation rate as "INF", population growth as "POP" and foreign direct investment as "FDI". Trade openness reflects the degree to which the selected nations engage in trade, whether exporting or importing. For each nation evaluated, the trade-to-GDP ratio, calculated through total exports and imports, serves as the measure for trade openness. These methods have gained prominence among majority of the countries analyzed due to the impacts of trade liberalization and globalization policies. population growth aims to reflect changes in the resident population of the countries, and inflation is included to assess the purchasing power of the national currency. Ultimately, foreign direct investment is recognized as a vital factor for growth in the nations studied, echoing findings from previous research like Chami et al. (2003) and Goschin (2013). All these factors are commonly acknowledged in growth-related literature, which justifies their inclusion in this study.

University of Ghana http://ugspace.ug.edu.gh

Table 1. Variable definition

Variables	Proxy	Measurement
Gross Domestic Product per labour	gdp	$\frac{GDP}{labour}$
Personal remittances	rem	Personal remittances received/GDP in %
Financial inclusion	fin	M2/GDP in %
Foreign direct investment	fdi	FDI/GDP in %
Trade openness	to	$\frac{Export + Import}{GDP} * 100$
Inflation	inf	$\frac{CPI_t - CPI_{t-1}}{CPI_{t-1}} in\%$
Population growth	pop	Annual population growth (%)

All the variables are measured in US dollars

3.5. Model specification

The research utilizes the Autoregressive Distributed Lag model on a dataset covering the years 2010 to 2020. This approach is chosen due to the Autoregressive Distributed Lag (ARDL)'s capability to handle smaller data samples (Muhammad & Abdullahi, 2020). Additionally, this method does not require the variables to be of the same order, allowing for a mix of integration at level – I(0) and order one – I(1). Lastly, the ARDL addresses issues related to serial correlation and the endogeneity of variables.

The general form of the model is outlined as:

$$GDP = f(REM, FIN, FDI, TO, INF, POP) \quad (1)$$

University of Ghana http://ugspace.ug.edu.gh

To correctly specify the linear panel data and econometric form:

$$GDP = K + a_1 REM_{it} + a_2 FIN_{it} + a_3 FDI_{it} + a_4 TO_{it} + a_5 INF_{it} + a_6 POP_{it} + \eta_i + \varepsilon_{it} \quad (2)$$

where η_i and ε_{it} indicate the unobserved country-specific effect and the error term respectively, and K is the constant term.

This study conducts estimations using both the PMG and MG methods. Considering Pesaran et al. (1999), Equation (2) can be written in panel ARDL form as:

$$\Delta GDP_{it} = K + \emptyset GDP_{it-1} + \pi_i \sum_{i=1}^{\rho} \Delta GDP_{it-i} + a_i \sum_{i=1}^{\rho} \Delta REM_{it-i} + \omega_i \sum_{i=1}^{\rho} \Delta FIN_{it-i} + \varphi_i \sum_{i=1}^{\rho} \Delta TO_{it-i} + \vartheta_i \sum_{i=1}^{\rho} \Delta INF_{it-i} + \delta_i \sum_{i=1}^{\rho} \Delta POP_{it-i} + \theta_i \sum_{i=1}^{\rho} \Delta FDI_{it-i} + \lambda_i \sum_{i=1}^{\rho} \Delta REM_{FIN\,it-i} + \beta_1 GDP_{it-1} + \beta_2 REM_{it-1} + \beta_3 FIN_{it-1} + \beta_4 TO_{it-1} + \beta_5 INF_{it-1} + \beta_6 POP_{it-1} + \beta_7 FDI_{it-1} + \beta_8 REM_{FIN\,it-1} + \eta_i + \varepsilon_{it} \quad (3)$$

where $\emptyset$ represents the coefficient of the past lag of GDP, π_i, a_i, ω_i, φ_i, ϑ_i, δ_i, θ_i and λ_i, and β_1 to β_8 represent the short and long run coefficients respectively, while REM_FIN_{it-i} and REM_FIN_{it-1} indicate the short run interactive effect and long run interactive effect of remittances and financial inclusion.

The Mean Group estimator can therefore be written as:

$$MG = N^{-1} \sum_{i=1}^{N} \overline{\beta_i} \quad (4)$$

Where MG and β_i in Equation (4) imply mean group and the coefficient estimates.

3.5.1. Estimation technique

This study utilizes the Pooled Mean Group (PMG) and Mean Group (MG) methods of estimaton based on the Autoregressive Distributed Lag (ARDL) approach. The Pooled Mean Group

University of Ghana http://ugspace.ug.edu.gh

estimator, by Pesaran et al. (1999), involves pooling and averaging coefficients across different cross-sectional units. In contrast, the Mean Group approach (Pesaran & Shin, 1995) entails estimating each unit independently and then averaging the resulting coefficients across the cross-sectional units. The ARDL model is chosen due to its suitability for the data set. Firstly, it can handle a combination of stationary and non-stationary variables and is appropriate for research with limited sample sizes. This analysis includes 34 cross-section observations across an 11-year time series, which is manageable within ARDL models and is considered small for many panel studies. Lastly, it models the dynamics of the variables understudied in the short term and long term. As a result, the study performs both PMG and MG estimations.

INTEGRI PROCEDAMUS

University of Ghana http://ugspace.ug.edu.gh

CHAPTER FOUR

4.0. Results and Discussion

4.1. Introduction

This chapter of the study provides the answers to the research questions. It opens the discussion of the study where relevant literature is linked to the findings of the study. Specifically, the chapter presents the summary statistics of the data, correlation matrix, regression output, and analysis of the results of the study.

4.2. Descriptive statistics

Table 2 shows the summary statistics of the variables employed for this research. Specifically, the section presents the mean, standard deviation, minimum, and maximum values of the variables used in the study. The data shows that, on average, remittances as a percentage of Gross Domestic Product, Gross Domestic Product per labor, trade openness percentage, and broad money supply as a share of Gross Domestic Product, in the sub region are USD 559.34 billion, USD 975.22 billion, 76.50% and 35.33%, respectively. In the Sub-Saharan African region, the average Gross Domestic Product per labor is comparatively low when contrasted other regions. While the average proportion of money supply relative to GDP is minimal, the average figures for remittances as a percentage of GDP and trade openness are significantly higher. For the entire sample, the average foreign direct investment as a share of GDP, measured at 3.45%, is also low. The average population growth and inflation rate during these periods are both low at 2.36% and 5.44%. The median and mean values for population growth and inflation rate are very similar, indicating an almost symmetrical distribution and low variability. The lowest recorded GDP per labor stands at

University of Ghana http://ugspace.ug.edu.gh

USD 160.22 billion, and the highest is USD 15695.90 billion. In comparison, the lowest remittances as a percentage of GDP in the SSA nations amount to USD 160.22 billion, against a maximum of USD 15695.90 billion. Broad money supply has a minimum of 8.16%, with a maximum of 110.77%. GDP per capita, remittances, broad money supply, trade openness, and inflation show positive skewness, however, only population growth exhibits negative skewness. Finally, at the 0.05% level of significance, the Jarque-Bera surpasses for all series, suggesting that, at the 0.05% level, the null hypothesis of normal distribution is significantly rejected. It can be linked to the heterogeneous and cross-sectional characteristics of the data utilized in the research. Such heterogeneities are generally addressed when estimating in the analysis of panel datasets.

Table 2. Descriptive Statistics

	GDP	REM	FIN	TO	INF	POP	FDI
Mean	1957.11	995.43	35.33	76.50	5.44	2.36	3.45
Median	806.14	145.87	28.78	63.74	4.3823	2.56	2.26
Maximum	15,695.90	21,059.70	110.77	225.02	36.96	5.60	54.06
Minimum	160.22	1.80	8.16	21.45	-9.62	-2.63	-0.90
S. D.	2722.35	3532.29	19.74	40.05	5.78	0.87	4.51
Skewness	2.48	4.96	1.46	1.61	2.12	-1.07	5.62
Kurtosis	9.49	26.37	4.77	5.33	10.39	7.07	55.75
J-Bera	868.69	8385.52	152.05	205.87	943.97	276.13	36,720.41
Prob.	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Obs.	374	374	374	374	374	374	374

INTEGRI PROCEDAMUS

University of Ghana http://ugspace.ug.edu.gh

4.3. Correlation matrix

According to Table 3, financial inclusion, trade openness, and inflation rate, exhibit positive connections to GDP per labor, whereas both remittances and population growth are associated with negative relationships. Financial inclusion and population growth are the only variables that exceed 0.50, indicating a strong linear association with Gross Domestic Product per labor. Between GDP per labor and financial inclusion, there exists a strong positive correlation of 0.72, and weak negative correlation of 0.17 exists between remittances and GDP per labor. Inflation shows a weak positive correlation value of 0.08. Lastly, a positive correlation of 0.32 and 0.38 are moderately observed for foreign direct investment and trade openness, respectively, between GDP per labor and population growth, a negative correlation of 0.53 is observed.

Table 3. Correlation matrix

	GDP	**REM**	**FIN**	**TO**	**INF**	**POP**	**FDI**
GDP	1						
REM	-0.19	1					
FIN	0.71	0.01	1				
TO	0.38	0.49	0.51	1			
INF	0.09	-0.02	-0.01	0.16	1		
POP	-0.53	-0.3	-0.59	-0.64	-0.11	1	
FDI	0.31	-0.01	0.31	0.49	0.12	-0.24	1

INTEGRI PROCEDAMUS

University of Ghana http://ugspace.ug.edu.gh

4.4. Panel unit root tests

It is essential to verify the time series characteristics of the variables before conducting an inferential estimation among the variables. Following Pesaran et al. (2001), this step is appropriate for I(0) variables and I(1) variables, but inappropriate for I(2) variables, to accurately implement the panel Autoregressive Distributed Lag. Panel unit root tests, including Augmented Dickey-Fuller (ADF) (Dickey & Fuller, 1979) and Levin-Lin-Chu (LLC) (Levin et al., 2002) tests, were executed. Table 4 indicates that foreign direct investment, trade openness, GDP and inflation are stationary at their levels, categorizing them as I(0) variables. In contrast, remittances are not stationary for the ADF at level form but are stationary according to the LLC test; hence, they are differenced once to achieve first difference stationarity. This also applies to financial inclusion. For ADF, population growth at levels is stationary, however, it requires differencing once to become stationary at first difference. Thus, population growth, financial inclusion and remittances follow an I(1) process, and foreign direct investment, inflation, trade openness, and GDP are I(0). These unit root findings suggest that the variables exhibit mixed stationarity, specifically I(0) and I(1) processes, which aligns with the Pooled Mean Group/Autoregressive Distributed Lag model.

INTEGRI PROCEDAMUS

University of Ghana http://ugspace.ug.edu.gh

Table 4. Panel unit root

	Level	LLC	P-v	ADF	P-v	Status
GDP	0	-7.09	0.00***	57.28	0.04***	I(0)
REM	0	-5.96	0.00***	52.07	0.1	
	1	-10.7	0.00***	135.1	0.00***	I(1)
FIN	0	-2.89	0.00***	50.36	0.12	
	1	-13.5	0.00***	191.8	0.00***	I(1)
TO	0	-3.48	0.00***	55.39	0.05*	I(0)
INF	0	-11.3	0.00***	146.3	0.00***	I(0)
POP	0	27.45	1.00	98.39	0.00***	
	1	96.77	0.00***	107.5	0.00***	I(1)
FDI	0	-3.78	0.00***	78.56	0.00***	I(0)

***, **, and * denote 0.01%, 0.05% and 0.10% significance levels respectively; probability is represented by P-v. All variables are presented in logarithmic form, except for population growth and inflation, which are already presented as rates.

INTEGRI PROCEDAMUS

4.5. Panel cointegration tests

Following that the mixed stationary status is confirmed through the panel unit root test, Kao (1999) and Pedroni (1999) panel co-integration tests are utilized to investigate the co-integrating relationship among the variables. The Pedroni (1999) test is used in dynamic panels to assess the characteristics of residual-based tests, allowing for both long-run slope coefficients and short-run dynamics to vary among individual panel members, concerning the null hypothesis of no co integration. The Pedroni test includes both group mean tests across dimensions and pooled tests

University of Ghana http://ugspace.ug.edu.gh

within the dimensions, incorporating an individual intercept in its analysis. From Table 5, at the 5% level of significance, the null hypothesis of no co-integration is rejected using the Kao residual panel co-integration test, while the same applies from 6 out of the 11 Pedroni results, as demonstrated from the findings from the Pedroni panel co-integration test in Table 6.

Table 5. Kao residual panel cointegration

Test	t-statistics	Prob.
Kao cointegration test	-1.87	0.03[a]

[a] denotes 5% significance level

Table 6. Pedroni cointegration test

Tests	Statistic	Prob.	Statistic	Prob.
Panel v-Statistic	-1.13	0.87	-0.75	0.77
Panel rho-Statistic	-4.51	0.00[a]	-4.48	0.00[a]
Panel ADF-Statistic	-0.15	0.44	-1.22	0.11
Between -Dimension				
Panel rho-Statistic	-5.16	0.00[a]		
Panel ADF-Statistic	-3.05	0.00[a]		

[a] denotes statistical significance at 1% level

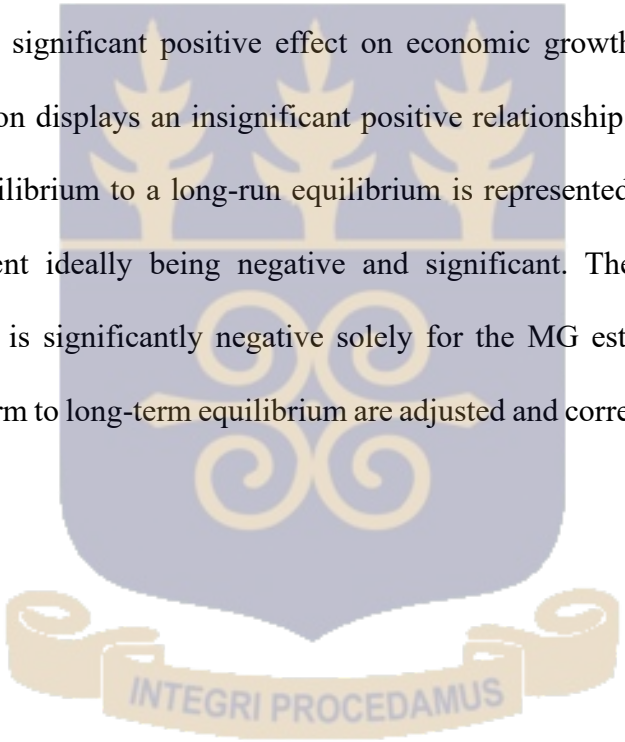
University of Ghana http://ugspace.ug.edu.gh

4.6. Empirical results and discussion

Tables 7 and 8 details the findings regarding the short and long-run impacts of financial inclusion and remittances on economic growth, differentiating between the Mean Group and Pooled Mean Group methodologies. Both PMG and MG estimations utilize an optimal lag length of panel Autoregressive Distributed Lag, determined by the Schwarz Information Criterion (SIC). Concerning the relationship between the variables, the results of the short and long-run MG and PMG estimations show similar patterns. In the short run, coefficient values for remittances are 0.79 and 0.83, both of which are statistically significant at the 0.01% significance level and positive for the MG and PMG estimates. This indicates that a 1% rise in remittances to the sampled Sub-Saharan African nations would result in an economic growth increase of 0.79% or 0.83%. In essence, according to the PMG and MG estimates, the short-term effect of remittances on economic growth is statistically significant and positive, highlighting their beneficial role in the economic growth of Sub-Saharan African nations in the short term. This observation aligns with the conclusions drawn by Karikari et al. (2016) and Nyamongo et al. (2012), which argue that a key source of capital for economic growth in Sub-Saharan Africa is remittances. Likewise, financial inclusion positively influences economic growth in the short term, at a 0.01% significance level for MG and PMG estimations, for SSA countries. These findings reveal that a 1% rise in financial inclusion would lead to a growth increase of 0.003% and 0.007% for the MG and the PMG methods, respectively. Conversely, according to both the MG and PMG estimates, the level of trade openness shows an insignificant and a negative relationship with economic growth in the short term. The corresponding coefficients of -0.001 and -0.01 suggest that a 1% rise in trade openness decreases economic growth by 0.01% or -0.001 in the SSA countries. This analysis supports previous studies by Metu and Chinedu (2013), and Nzotta and Okereke (2015),

University of Ghana http://ugspace.ug.edu.gh

which argued that for developing nations, trade openness does not significantly contribute to economic development. With coefficients of 0.028 and 0.014, a positive and significant relationship on growth is noted for population growth, both at the 0.05% level of significance for MG and PMG estimations, indicating that a 1% boost in population growth significantly enhances economic growth by 0.014% or 0.028%. In contrast, the inflation rate and foreign direct investment are shown to have an insignificant relationship with economic growth, with PMG estimates yielding coefficients of 0.01 and -0.01, respectively. However, MG results indicate that foreign direct investment has a significant positive effect on economic growth at the 0.01% level of significance, and inflation displays an insignificant positive relationship. The rate of adjustment from a short-run disequilibrium to a long-run equilibrium is represented by the error correction term, with its coefficient ideally being negative and significant. The error correction term coefficient is -0.16 and is significantly negative solely for the MG estimation, signifying that deviations from short-term to long-term equilibrium are adjusted and corrected annually by 0.16%, for Sub-Saharan Africa.



University of Ghana http://ugspace.ug.edu.gh

Table 7. Short and long run Pooled Mean Group/Autoregressive Distributed Lag

Dependent variable: GDP		PMG/ARDL (1,1,1,1,1,1,1)		Prob.
Variables	Coefficients	Std-error	t-statistics	
d (rem(-1))	0.7914	0.3263	2.4256	0.02**
d (fin(-1))	0 .0071	0.0094	0.7567	0.45
d (to(-1))	-0.0100	0.0024	-0.3581	0.72
d (pop(-1))	0.0279	0.9953	2.0375	0.04**
d (inf(-1))	0.0100	0.0068	0.3272	0.74
d (fdi(-1))	-0.0118	0.0115	-1.0284	0.31
d (rem_fin(-1))	-0.0357	0.0222	-1.6081	0.11
ecm(-1)	-0.1352	0.1039	-1.3014	0.19
rem	0.1567	0.0237	6.6246	0.00***
fin	0.0725	0.0024	30.3592	0.00***
to	0.0100	0.0008	10.2832	0.31
pop	0.2296	0.0382	6.0138	0.00***
Inf	0.0084	0.0021	13.7667	0.15
fdi	-0.00883	0.0016	-5.1179	0.00***
rem_fin	-0.0038	0.0003	-10.8270	0.00***

*** and ** indicate 0.01% and 0.05% significance level

INTEGRI PROCEDAMUS

University of Ghana http://ugspace.ug.edu.gh

Table 8. Short and long run Mean Group/ Autoregressive Distributed Lag

Dependent variable: GDP		MG/ARDL(1,1,1,1,1,1,1)		Prob.
Variables	Coefficients	Std-error	t-statistics	
d (rem(-1))	0.8305	0.3263	2.4256	0.00***
d (fin(-1))	0 .0033	0.0094	0.7567	0.00***
d (to(-1))	-0.0010	0.0024	-0.3581	0.72
d (pop(-1))	0.0135	0.9953	2.0375	0.06*
d (inf(-1))	0.0311	0.0068	0.3272	0.19
d (fdi(-1))	-0.0844	0.0115	-1.0284	0.00***
d (rem_fin(-1))	-0.0357	0.0222	-1.6081	0.00***
ecm(-1)	-0.1604	0.1039	-1.3014	0.00
rem	0.0861	0.0215	4.0030	0.00***
fin	0.0971	6.6292	4.5160	0.00***
to	0.4663	4.3070	1.7335	0.08*
pop	0.5416	0.0382	6.0138	0.06*
Inf	-0.0045	9.9230	-2.2377	0.04**
fdi	-0.0400	0.0016	-5.1179	0.00***
rem_fin	-0.0021	0.0003	-10.827	0.00***

***, ** and * indicate 0.01%, 0.05% and 0.10% significance level

As shown in Tables 7 and 8, in the long run, it is clear that, for the PMG and MG estimates, remittances exhibit a statistically significant and positive relationship at a 0.01% level of significance. The coefficients of 0.16 and 0.09 suggest that a 1% rise in remittances results in either

University of Ghana http://ugspace.ug.edu.gh

a 0.16 or 0.09% rise in economic growth for Sub-Saharan Africa. This outcome confirms the views of proponents of structural migration who contend that remittances enhance economic growth in home countries of migrants. This finding is consistent with Kindleberger's (1965) assertion that remittances influence growth by boosting consumption, household income, investment, and job creation. Many previous research, Adarkwa (2015) and Nyamongo et al. (2012), identified a positive correlation between remittances and economic growth in various countries over different time frames. Therefore, in the long run, an influx of remittances positively and significantly influences the economic growth of the countries sampled during this study period. Regarding the effect of financial inclusion on economic growth, the results from the long-run PMG and MG methods corroborate with the short-term findings, confirming that financial inclusion has a significant positive effect on economic growth in the sampled SSA nations at a 0.01% level of significance. The findings show that a 1% growth in financial inclusion would lead to a rise in economic growth by 0.07 or 0.1% in the long run. This aligns with the theory posited by Schumpeter (1911), which posited that an effective financial system can certainly drive innovation and subsequent economic growth by identifying and funding productive investments. Additional research that supports these findings, Abidemi and Bidemi (2014), found a significant positive connection between economic growth and financial inclusion. Thus, this research concludes that financial inclusion has a significant positive relationship on the economic growth on the understudied Sub-Saharan African nations in the long run. Coefficient values for trade openness are statistically significant only for the MG estimation at a 0.10% level of significance and the coefficients are positive. With the MG estimate, a coefficient of 0.47 suggests that a 1% rise in trade openness results in a 0.47% rise in economic growth in the long term. This finding is consistent with Abid and Zghidi (2014), which found that economic growth is significantly and

University of Ghana http://ugspace.ug.edu.gh

positively influenced by trade openness in North African countries. Conversely, population growth, with a coefficient value of 0.23, shows a significant and positive relationship with economic growth, only for the PMG estimate, at a 0.01% level of significance. This indicates that a 1% rise in population growth leads to a 0.23% rise in economic growth throughout the study period. This result aligns with studies by Mamingi and Perch (2013), which demonstrated that population growth has a significant effect on economic growth. Additionally, the findings indicate that, inflation has a negative and statistically significant relationship in the long run, at a 0.05% level of significance for the MG estimate, however, it is insignificant and positive for PMG. The coefficient of 0.01 suggests that a 1% rise in the inflation rate would lead to a decline in economic growth by 0.01% in Sub-Saharan African nations. Furthermore, foreign direct investment is observed to have a negative impact on long-term economic growth according to both PMG and MG estimates. This indicates that a 1% increase in foreign direct investment results in a decrease in economic growth by either 0.09% or 0.04% significantly in the long term. This analysis is motivated by previous research suggesting that remittances can enhance financial inclusion, meaning that they flourish in nations with functioning financial systems (Aggarwal et al., 2011), and other studies argue that remittances serve as a substitute means of financing investments and help mitigate liquidity challenges, acting as an alternative in nations with underdeveloped financial systems (Giuliano & Ruiz-Arranz, 2009; Sobiech, 2015). Consequently, both MG and PMG estimations, the short-run interactive effects of remittances and financial inclusion on economic growth d(REM_FIN(-1)) are examined. The MG results show negative interactive effects that are statistically significant in both the short and long run at the 0.01% level of significance. In contrast, a significant negative interactive term is observed with the PMG method in the long run at the 0.01% level of significance. These negative interactive effects show a substitutive relationship

University of Ghana http://ugspace.ug.edu.gh

between remittances and financial inclusion in Sub-Saharan Africa. The findings suggest that remittances and financial inclusion have a substituting influence on economic growth in the SSA countries.

4.7. Granger causality test

Using a Vector Autoregressive (VAR) model, Granger Causality/Block Exogeneity Wald tests for causation are conducted, after confirming the presence of a co-integrating relationship among economic growth, financial inclusion and remittances. The co-integration among the variables suggests that there exists at least one causal relationship. This arises from the view that advancements in financial inclusion, such as the innovative services provided by savings options mobile banking, money transfers, online transfers, and digital payments, can stimulate the inflows of remittances. Put differently, banks striving for greater profitability may develop payment systems that entice remittance inflows. Financial inclusion has the potential to drive economic growth, and a robust economic environment can foster a well-functioning financial marketplace to satisfy growth requirements. Regarding the causal link between remittances and economic growth, an influx of remittances can promote economic growth, especially considering the optimistic perspective that remittances enhance investments and household income in the home countries. Likewise, the growth opportunities available back home can incentivize remittances from host countries. Feeny et al. (2014) noted that migrants might be responsive to declining economic growth back home by increasing the amounts they send back to their families. In a similar context, Barajas et al. (2009) posits that lower growth rates might also result in elevated levels of emigration, leading to increased remittances. Moreover, various scholarly publications have explored the causality among remittances, financial inclusion, and economic growth in various

University of Ghana http://ugspace.ug.edu.gh

geographical contexts (Adarkwa, 2015; Aggarwal et al., 2011; Akonji & Wakili, 2013; Karikari et al., 2016; Kibet & Agbelenko, 2015; Sibindi, 2014; Sobiech, 2019). The outcomes of the Granger Causality Test, as displayed in Table 9, indicate unidirectional causal flows from GDP to remittances at a significance level of 0.05% and from financial inclusion to GDP at a significance level of 0.01%. However, the null hypothesis cannot be rejected, since there is no existing causal relationship between remittances and financial inclusion. This finding aligns with the conclusions of Sibindi (2014), confirming that in Lesotho, one of the Sub-Saharan countries understudied, no causation exists from remittances to financial inclusion. The findings also corroborate Coulibaly (2015), which indicates a causal relationship between financial inclusion and remittances in Sub-Saharan Africa.

Table 9. Vector Autoregressive Granger causality/Block Exogeneity Wald

Dependent Variable	GDP		FIN	REM		
Independent Variable	chi-square	p-val	chi-square	p-val	chi-square	p-val.
GDP	-	-	0.7494	0.29	6.1392	0.04**
FIN	10.6057	0.00***	-	-	1.4081	0.32
REM	1.4462	0.49	2.472	0.69	-	-

*** and ** signify 0.01%, 0.05% significance level

University of Ghana http://ugspace.ug.edu.gh

CHAPTER FIVE

5.0. Conclusion

5.1. Introduction

This chapter climaxes the study by providing a synopsis of the findings and its policy implications. The chapter presents the summary, conclusion, and recommendation of the study.

5.2. Summary

This study investigated the relationship between remittances, economic growth and financial inclusion in 34 selected Sub-Saharan African countries, utilizing both the Mean Group and Pooled Mean Group/Autoregressive Distributed Lag models alongside the Vector Autoregressive Granger causality/block exogeneity test. Following the establishment of cointegration among the variables, in both the short and long run, the findings showed that remittances have a significant positive impact on economic growth. Similarly, financial inclusion notably enhances economic growth in the short run and the long run. Additionally, unidirectional causal relationships were found, where financial inclusion affects economic growth and economic growth influences remittances. Conversely, between financial inclusion and remittances, no causal relationship was identified in SSA. The lack of causality between financial inclusion and remittances supports the previously observed alternate relationship between them. It indicates a disassociation between remittances and financial markets in Sub-Saharan Africa, reflecting low financial inclusion and reliance on informal financial systems for remittance inflows. It may also imply that the proportion of remittance recipients accessing financial services in Sub-Saharan Africa remains low in contrast with the volume of remittance inflows. Factors such as low bank penetration and concentration

University of Ghana http://ugspace.ug.edu.gh

might hinder access due to the distance to access financial institutions. Therefore, this research concludes that both financial inclusion and remittances serve as vital indicators of economic growth in Sub-Saharan Africa; but the interplay between financial inclusion and remittances does not significantly contribute to the process of economic growth in this region. The results, therefore, have led to significant policy implications and recommendations. To begin with, the research confirmed that remittances indeed foster economic growth in Sub-Saharan African countries. This result can be interpreted optimistically, indicating that an increase in aggregate demand is likely due to heightened consumption and investment by families receiving remittances. This increased aggregate demand can be beneficial to the productive sector through multiplier effects. To add, a causal relationship from remittances to economic growth was identified. The significance of this causal relationship suggests that the availability of investment opportunities and growth drivers in home countries attracts substantial remittance inflows from abroad into Sub-Saharan Africa. Second, with evidence of causality flowing from financial inclusion to economic growth, the study indicated that financial inclusion serves as a significant mechanism for enhancing economic growth in Sub-Saharan Africa.

INTEGRI PROCEDAMUS

5.3. Recommendations and future research

In the short and long run, enhanced financial services, payment systems and financial products are essential for fostering economic growth in Sub-Saharan African nations. Financial policies in the short and long run should aim to boost the performance of the financial sector by developing and executing effective reforms in order for the financial sector of the economy to be strengthened. There needs to be an array of diversified banking services along with an increase in financial inclusion, including the adoption of online banking, mobile banking, rural banking, and Automated

University of Ghana http://ugspace.ug.edu.gh

Teller Machines (ATMs), which would connect more remittance-receiving households in Sub-Saharan Africa into the formal financial system, from the informal channels, to ensure a more inclusive growth. Hence, increasing remittances could lead to a more inclusive financial system, which subsequently promotes economic growth. To effectively implement these recommendations, it is imperative to strengthen the resources, partnerships, and institutional frameworks that underpin financial inclusion and the productive use of remittances in Sub-Saharan Africa. Adequate financial and technological resources are needed to expand and improve digital financial infrastructure, ensuring wider access to formal financial services. Strategic partnerships among governments, financial institutions, diaspora organizations, and development agencies are essential to facilitate knowledge sharing, capacity building, and coordinated interventions. Moreover, robust institutional frameworks must be established or enhanced to create an enabling environment through supportive policies, regulatory oversight, and consumer protection mechanisms. These combined efforts will foster an integrated approach that maximizes the impact of remittances on economic growth and sustainable development across the region.

Further studies, considering a longer time period, are necessary to provide insights on the effect on different income levels in the region and the effect when the lower levels have escaped their traps and the non-linear relationship between the linkages that may exist on this issue.

INTEGRI PROCEDAMUS

University of Ghana http://ugspace.ug.edu.gh

REFERENCES

Abdih, Y., Chami, R., Dagher, J., & Montiel, P. (2012). Remittances and institutions: Are remittances a curse? *World Development, 40*(4), 657–666.

Abid, M., & Zghidi, N. (2014). The relationship between financial development and economic growth: An empirical investigation. *International Journal of Economics and Financial Issues, 4*(1), 10–20.

Abidemi, A. A., & Bidemi, A. O. (2014). Impact of remittances on economic growth in Nigeria. *International Journal of Academic Research in Business and Social Sciences, 4*(9), 234–246.

Aboulezz, N. (2015). Remittances and economic growth nexus: Empirical evidence from Kenya. *International Journal of Academic Research in Business and Social Sciences, 5*(12), 285–296.

Acosta, P., Calderón, C., Fajnzylber, P., & López, H. (2008). What is the impact of international remittances on poverty and inequality in Latin America? *World Development, 36*(1), 89–114.

Adams, R. H., & Alderman, H. (1992). *Sources of income inequality in rural Pakistan: Inequality and poverty in Pakistan*. The World Bank.

Adams, R. H., Jr. (2006). *Remittances and poverty in Ghana* (Policy Research Working Paper No. 3838). World Bank. https://hdl.handle.net/10986/8781

Adams, R. H., Jr., & Cuecuecha, A. (2010). Remittances, household expenditure and investment in Guatemala. *World Development, 38*(11), 1626–1641.

Adarkwa, M. A. (2015). Impact of remittances on economic growth: Evidence from selected West African countries (Cameroon, Cape Verde, Nigeria and Senegal). *African Human Mobility Review, 1*(2), 177–200.

Addison, E. K. Y. (2005). *The macroeconomic impact of remittances* (Conference paper). Bank of Ghana.

University of Ghana http://ugspace.ug.edu.gh

Adeagbo, O., & Ayandibu, A. O. (2014). Impact of remittances on development in Nigeria: Challenges and prospects. *Journal of Sociology and Social Anthropology, 5*(3), 311–318.

Adepoju, A. (2004). Trends in international migration in and from Africa. In D. S. Massey & J. E. Taylor (Eds.), *International migration: Prospects and policies in a global market* (pp. 59–76). Oxford University Press. https://doi.org/10.1093/0199269009.003.0004

Adesote, S. A., & Osunkoya, O. A. (2018). The brain drain, skilled labour migration and its impact on Africa's development, the 1990s–2000s. *Journal of Pan African Studies, 12*(1), 395–420.

African Development Bank. (2022). *African economic outlook 2022* (AfDB Group). https://www.afdb.org/en/documents/african-economic-outlook-2022-report

Afsar, R. (2011). Contextualizing gender and migration in South Asia. *South Asia Research*, *31*(2), 191–205.

Aga, G. A., & Martínez Pería, M. S. (2014). *International remittances and financial inclusion in Sub-Saharan Africa* (World Bank Policy Research Working Paper No. 6991). World Bank. https://hdl.handle.net/10986/19383

Aggarwal, R., Demirgüç-Kunt, A., & Martínez Pería, M. S. (2011). Do remittances promote financial development? *Journal of Development Economics, 96*(2), 255–264.

Aggarwal, S., & Klapper, L. (2013). *Designing government policies to expand financial inclusion: Evidence from around the world* (Working Paper). University of California. http://www.isb.edu/faculty/shilpa_aggarwal/files/shilpa-aggarwal-leora-klapper.pdf

Ajefu, J. B., & Ogebe, J. (2019). Migrant remittances and financial inclusion among households in Nigeria. *Oxford Development Studies, 47*(3), 319–335.

University of Ghana http://ugspace.ug.edu.gh

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.

Akonji, D. R., & Wakili, A. M. (2013). The impact of net migrant remittance on economic growth: Evidence from Nigeria. *International Journal of Humanities and Social Science, 3*(8), 303–315.

Alvarez-Tinajera, S. P. (2013). *International migration and development training modules: Facilitator's guide*. International Organization for Migration. https://publications.iom.int/books/international-migration-and-development-training-modules

Ambrosius, C., & Cuecuecha, A. (2013). Are remittances a substitute for credit? Carrying the financial burden of health shocks in national and transnational households. *World Development, 46*, 143–152.

Ambrosius, C., & Cuecuecha, A. (2016). *Remittances and the use of formal and informal financial services. World Development, 77*, 80–98.

Ambrosius, C., Fritz, B., & Stiegler, U. (2014). Remittances for financial access: Lessons from Latin American microfinance. *Development Policy Review, 32*(6), 733–753.

Anzoategui, D., Demirgüç-Kunt, A., & Martínez Pería, M. S. (2011). *Remittances and financial inclusion: Evidence from El Salvador* (World Bank Policy Research Working Paper No. 5839). World Bank. https://doi.org/10.1596/1813-9450-5839

Anzoategui, D., Demirgüç-Kunt, A., & Pería, M. S. M. (2014). Remittances and financial inclusion: Evidence from El Salvador. *World Development, 54*, 338–349.

Asian Development Bank. (2022). *Labor mobility and remittances in Asia and the Pacific during and after the COVID-19 pandemic*. ADB. https://seads.adb.org/publication/labor-mobility-and-remittances-asia-and-pacific-during-and-after-covid-19-pandemic

University of Ghana http://ugspace.ug.edu.gh

Aycinena, D., Martínez, C. A., & Yang, D. (2010). *The impact of remittance fees on remittance flows: Evidence from a field experiment among Salvadoran migrants* (Working Paper). University of Michigan. https://sites.lsa.umich.edu/wp-content/uploads/sites/205/2014/12/aycinena-martinez-yang-remittances.pdf

Azizi, S. (2018). The impacts of workers' remittances on human capital and labor supply in developing countries. *Economic Modelling, 75*, 377–396.

Ball, C. P., Lopez, C., & Reyes, J. (2013). Remittances, inflation and exchange rate regimes in small open economies. *The World Economy, 36*(4), 487–507.

Barajas, A., Chami, R., & Yousefi, S. R. (2013). *The finance and growth nexus re-examined: Do all countries benefit equally?* (IMF Working Paper No. 13/130). International Monetary Fund. https://doi.org/10.5089/9781484372104.001

Barajas, A., Chami, R., Fullenkamp, C., Gapen, M., & Montiel, P. (2009). *Do workers' remittances promote economic growth?* IMF Working Paper No. 09/153. International Monetary Fund. https://doi.org/10.5089/9781451873009.001

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.

Barua, S., & Rana, R. H. (2015). Financial development and economic growth: Evidence from a panel study on South Asian countries. *Asian Economic and Financial Review, 5*(10), 1159–1173.

Bazenguissa-Ganga, R. (2005). Remittances and migration in Africa: Challenges and opportunities. In E. E. Akyeampong, R. Bates, N. Nunn, & J. A. Robinson (Eds.), *Africa's development in historical perspective* (pp. 257–279). Cambridge University Press.

INTEGRI PROCEDAMUS

University of Ghana http://ugspace.ug.edu.gh

Beck, T., & Cull, R. (2015). Banking in Africa. In A. N. Berger, P. Molyneux, & J. O. S. Wilson (Eds.), *The Oxford handbook of banking* (pp. 913–937). Oxford University Press.

Beck, T., Demirgüç-Kunt, A., & Martínez Pería, M. S. (2005). Reaching out: Access to and use of banking services across countries. *Journal of Financial Economics, 85*(1), 234–266.

Benmamoun, M., & Lehnert, K. (2013). Financing growth: Comparing the effects of FDI, ODA, and international remittances. *Journal of Economic Development, 38*(2), 43–65.

Berdiev, A. N., Kim, Y., & Chang, C.-P. (2013). Remittances and corruption. *Economics Letters, 118*(1), 182–185.

Bettin, G., & Zazzaro, A. (2008). *Remittances and financial development: Substitutes or complements in economic growth?* (Mo.Fi.R. Working Paper No. 28). Money and Finance Research Group, Università Politecnica delle Marche. https://ssrn.com/abstract=1240659

Bettin, G., Lucchetti, R., & Zazzaro, A. (2012). Financial development and remittances: Micro-econometric evidence. *Economics Letters, 115*(2), 184–186.

Bhandari, B. S. (2018). Life insurance – social security & financial inclusion. *Bimaquest, 18*(2). https://bimaquest.niapune.org.in/index.php/bimaquest/article/view/22 (turn1search1)

Bhattacharya, R., & Wolde, H. (2010). *Constraints on growth in the MENA region* (IMF Working Paper No. 10/30). International Monetary Fund. https://doi.org/10.5089/9781451962574.001

Bhattarai, K. (2015). Financial deepening and economic growth in advanced and emerging economies. *Review of Development Economics, 19*(1), 178–195.

Bollard, A., McKenzie, D., Morten, M., & Rapoport, H. (2011). Remittances and the brain drain revisited: The microdata show that more educated migrants remit more. *World Bank Economic Review*, *25*(1), 132–156.

University of Ghana http://ugspace.ug.edu.gh

Brown, R. P. C., Carmignani, F., & Fayad, G. (2013). Migrants' remittances and financial development: Macro- and micro-level evidence of a perverse relationship. *The World Economy, 36*(5), 636–660.

Bruhn, M., & Love, I. (2014). *The real impact of improved access to finance: Evidence from Mexico. The Journal of Finance, 69*(3), 1347–1376.

Bryman, A. (2016). *Social research methods* (5th ed.). Oxford University Press.

Buch, C. M., & Kuckulenz, A. (2010). Worker remittances and capital flows to developing countries. *International Migration, 48*(5), 89–117.

Calderón, C., Fajnzylber, P., & López, J. H. (2008). Remittances and growth: The role of complementary policies. In P. Fajnzylber & J. H. López (Eds.), *Remittances and development: Lessons from Latin America* (pp. 335–368). Washington DC: World Bank.

Chami, R., & Fullenkamp, C. (2011). Workers' remittances and economic development: Realities and possibilities. In United Nations Conference on Trade and Development (Ed.), *Maximizing the development impact of remittances* (pp. 30–38). United Nations Conference on Trade and Development. https://unctad.org/system/files/official-document/ditctncd2011d8_en.pdf

Chami, R., Fullenkamp, C., & Jahjah, S. (2003). *Are immigrant remittance flows a source of capital for development?* IMF Working Paper No. 03/189. International Monetary Fund. https://doi.org/10.5089/9781451859638.001

Chami, R., Fullenkamp, C., & Jahjah, S. (2012). *Are immigrant remittance flows a source of capital for development?* IMF Working Paper No. 12/16. International Monetary Fund. https://doi.org/10.5089/9781463903864.001

Chen, S., & Ravallion, M. (2004). How have the world's poorest fared since the early 1980s? *World Bank Research Observer, 19*(2), 141–169.

University of Ghana http://ugspace.ug.edu.gh

Chibba, M. (2009). Financial inclusion, poverty reduction and the Millennium Development Goals. *The European Journal of Development Research, 21*(2), 213–230.

Chiodi, V., Jaimovich, E., & Montes-Rojas, G. (2012). Migration, remittances and capital accumulation: Evidence from rural Mexico. *Journal of Development Studies, 48*(8), 1139-1155.

Chisasa, J. (2014). The impact of remittances on financial development: Evidence from Africa. *International Journal of Economics and Finance*, *6*(6), 291–299.

Choong, C.-K., & Koay, Y.-Y. (2013). *The nexus between worker remittances and economic growth in Malaysia.* In Proceedings of the Eighth Malaysian National Economic Conference (PERKEM VIII) (pp. 507–515). Faculty of Business and Finance, Universiti Tunku Abdul Rahman.

Choucri, N. (1985). Migration, remittances, and development: A review of global evidence. In R. E. Baser (Ed.), *Migration and development: Opportunities and challenges* (pp. 19–45). Westview Press.

Chowdhury, M. (2016). Financial development, remittances and economic growth: Evidence using a dynamic panel estimation. *The Journal of Applied Economic Research, 10*(1), 35–54.

Chuc Anh Tu, Nguyet Thi Minh Phi, Le Quoc Tuan, Yoshino, N., Sarker, T., & Taghizadeh-Hesary, F. (2019). *Remittance inflows, financial inclusion, and economic development: An empirical analysis of the world sample* (ADBI Working Paper Series No. 1000). Asian Development Bank Institute. https://hdl.handle.net/10419/222767

Clemens, M. A., & McKenzie, D. (2014). *Why don't remittances appear to affect growth?* Policy Research Working Paper No. 6856. World Bank. https://hdl.handle.net/10986/18352

Cooray, A. (2012). The impact of migrant remittances on economic growth: Evidence from South Asia. *Review of International Economics, 20*(5), 985–998.

University of Ghana http://ugspace.ug.edu.gh

Coulibaly, D. (2015). Remittances and financial development in Sub-Saharan African countries: A system approach. *Economic Modelling, 45*, 249–258.

Cox Edwards, A., & Ureta, M. (2003). International migration, remittances, and schooling: Evidence from El Salvador. *Journal of Development Economics, 72*(2), 429–461.

Cox Edwards, A., & Rodríguez-Oreggia, E. (2009). Remittances and labor force participation in Mexico: An analysis using propensity score matching. *World Development, 37*(5), 1004–1014.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). SAGE Publications.

Curran, S. R. (1996). Migration, social capital, and the environment: Considering migrant selectivity and networks in migration research. *Population Environment, 17*(3), 233–262.

Davies, S. (2011). Income, gender, and consumption: A study of Malawian households. *Journal of Developing Areas, 44*(2), 1–25.

De Vletter, F. (2007). *Migration and remittances in Botswana and Lesotho: Economic and social impacts on development*. International Organization for Migration. https://publications.iom.int/books/migration-and-remittances-botswana-and-lesotho-economic-and-social-impacts-development

Deere, C. D., Alvarado, G. E., & Twyman, J. (2015). Gender inequality and rural social movements in Latin America. *Development and Change, 46*(2), 263–288.

Demetriades, P. O., & Hussein, K. A. (1996). Does financial development cause economic growth? Time-series evidence from 16 countries. *Journal of Development Economics, 51*(2), 387–411.

Demirgüç-Kunt, A., & Klapper, L. F. (2012). *Measuring financial inclusion: The global Findex database* (World Bank Policy Research Working Paper No. 6025). World Bank.

University of Ghana http://ugspace.ug.edu.gh

https://documents.worldbank.org/en/publication/documents-reports/documentdetail/630561468147661742/measuring-financial-inclusion-the-global-findex-database

Demirgüç-Kunt, A., Cordova, E. L., Martínez Pería, M. S., & Woodruff, C. (2011). Remittances and banking sector breadth and depth: Evidence from Mexico. *Journal of Development Economics, 95*(2), 229–241.

Demirgüç-Kunt, A., Klapper, L. F., Singer, D., Ansar, S., & Hess, J. (2015). *The Global Findex Database 2014: Measuring financial inclusion around the world* (World Bank Policy Research Working Paper No. 7255). World Bank. https://doi.org/10.1596/1813-9450-7255

Demirgüç-Kunt, A., Klapper, L., Singer, D., Ansar, S., & Hess, J. (2018). *Global Findex database 2017: Measuring financial inclusion and the fintech revolution*. World Bank. https://openknowledge.worldbank.org/handle/10986/29510

Dickey, D. A., & Fuller, W. A. (1979). Distribution of the estimators for autoregressive time series with a unit root. *Journal of the American Statistical Association, 74*(366), 427–431.

Docquier, F., Rapoport, H., & Shen, I.-L. (2007). *Remittances and inequality: A dynamic migration model* (Discussion Paper No. 2007003). Centre for Economic Research, Université catholique de Louvain / Rockwool Foundation Berlin. https://hdl.handle.net/10419/295280

Dupas, P., & Robinson, J. (2013). Savings constraints and microenterprise development: Evidence from a field experiment in Kenya. *American Economic Journal: Applied Economics, 5*(1), 163–192.

Dupas, P., Karlan, D., Robinson, J., & Ubfal, D. (2022). The impact of financial education on financial inclusion and empowerment: Evidence from randomized control trials. *Journal of Development Economics*, 154, 102712.

University of Ghana http://ugspace.ug.edu.gh

Ecobank Transnational Incorporated. (2018). *Cryptocurrency regulation in Sub-Saharan Africa: Research brief*. Ecobank Research. https://blockchainnewsgroup.com/2018/08/12/african-regulators-taking-wait-and-see-approach-on-cryptocurrency-ecobank-report/

Ekwe, M., & Inyiama, O. I. (2014). Foreign capital flows and growth of the Nigerian economy: An empirical review. *International Journal of Economics and Finance, 6*(4), 103–109.

Esteves, R., & Khoudour-Castéras, D. (2011). Remittances, capital flows and financial development during the mass migration period, 1870–1913. *European Review of Economic History, 15*(3), 443–474.

European Parliament & Council of the European Union. (2014). *Regulation (EU) No. 233/2014 establishing a financing instrument for development cooperation for the period 2014-2020*. Official Journal of the European Union. https://op.europa.eu/en/publication-detail/-/publication/b511df31-af92-11e3-86f9-01aa75ed71a1

Fayissa, B., & Nsiah, C. (2010). The impact of remittances on economic growth and development in Africa. *The American Economist, 55*(2), 92–103.

Fayomi, O., Azuh, D., & Ajayi, L. (2015). The impacts of remittances on Nigeria's economic growth: A study of Nigerian diasporas in Ghana. *Journal of South African Business Research*, Article ID 598378, 1–12. https://doi.org/10.5171/2015.598378

Feeny, S., Iamsiraroj, S., & McGillivray, M. (2014). Remittances and economic growth: Larger impacts in smaller countries? *Journal of Development Studies, 50*(8), 1055–1066.

University of Ghana http://ugspace.ug.edu.gh

Freund, C., & Spatafora, N. (2008). Remittances, transaction costs, and informality. *Journal of Development Economics, 86*(2), 356–366.

Fromentin, V. (2017). The long-run and short-run impacts of remittances on financial development in developing countries. *The Quarterly Review of Economics and Finance, 66*, 192–201.

Gautam, D. P. (2019). Do remittances promote financial inclusion? In J. C. Hall & S. Harper (Eds.), *Economic and political institutions and development* (pp. 91–108). Springer, Cham. https://doi.org/10.1007/978-3-030-06049-7_6

Gazdar, H., & Kratou, A. (2012). Remittances and economic development in Pakistan. *South Asia Economic Journal, 13*(2), 273–290.

Gibson, J., Boe-Gibson, G., Rohorua, H. T. S., & McKenzie, D. (2007). Efficient remittance services for development in the Pacific. *Asia-Pacific Development Journal, 14*(2), 55–74.

Giuliano, P., & Ruiz-Arranz, M. (2009). Remittances, financial development and growth. *Journal of Development Economics, 90*(1), 144–152.

Goschin, Z. (2013). The remittances as a potential economic growth resource for Romania. *Annales Universitatis Apulensis Series Oeconomica, 2*(15), 655–661.

Government of India. (2008). *Report of the Committee on Financial Inclusion* (Chairman: C. Rangarajan). Government of India. https://www.findevgateway.org/sites/default/files/publications/files/mfg-en-paper-report-of-the-committee-on-financial-inclusion-jan-2008.pdf

Gupta, S., Pattillo, C. A., & Wagh, S. (2009). Effect of remittances on poverty and financial development in Sub-Saharan Africa. *World Development, 37*(1), 104–115.

University of Ghana http://ugspace.ug.edu.gh

Gustafsson, B., & Makonnen, N. (1993). Poverty and remittances in Lesotho. *Journal of African Economies, 2*(1), 49–73.

Hughes, N. (2021). Bangladesh: The importance of digital trajectories. *Innovations: Technology, Governance, Globalization, 13*(1–2), 64–74.

Imai, K. S., Gaiha, R., Ali, A., & Kaicker, N. (2014). Remittances, growth and poverty: New evidence from Asian countries. *Journal of Policy Modeling, 36*(3), 524–538.

Inoue, T., & Hamori, S. (2016). Do workers' remittances promote access to finance? Evidence from Asia-Pacific developing countries. *Emerging Markets Finance and Trade, 52*(3), 765–774.

International Monetary Fund. (2019). *Balance of Payments and International Investment Position Manual* (BPM6). https://www.imf.org/external/pubs/ft/bop/2007/pdf/bpm6.pdf

International Organization for Migration. (2009). *Gender, migration and remittances* (IOM publication). https://publications.iom.int/system/files/pdf/iom_and_remittances.pdf

International Organization for Migration. (2019). *World Migration Report 2020.* IOM. https://publications.iom.int/system/files/pdf/wmr_2020.pdf

International Organization for Migration. (2022). *International remittances and COVID-19: Data snapshot*. International Organization for Migration.

Irving, J., Mohapatra, S., & Ratha, D. (2010). *Migrant remittance flows: Findings from a global survey of central banks* (World Bank Working Paper No. 194). World Bank. https://openknowledge.worldbank.org/handle/10986/2579

Issabayev, M., Saydaliyev, H., Avsar, V., & Chin, L. (2020). Remittances, institutions and financial inclusion: New evidence of non-linearity. *Global Economy Journal*, *20*(1), 1–19.

University of Ghana http://ugspace.ug.edu.gh

Jettinger, B. (2005). *Informal remittance systems in Africa, Caribbean and Pacific (ACP) countries: Senegal country study* (COMPAS Migration Study). ESRC Centre on Migration, Policy and Society, University of Oxford. https://assets.publishing.service.gov.uk/media/57a08c59e5274a27b200113f/InformalRemittanceSenegalStudy.pdf

Kabeer, N. (1999). Resources, agency, achievements: Reflections on the measurement of women's empowerment. *Development and Change, 30*(3), 435–464.

Kao, C. (1999). Spurious regression and residual-based tests for cointegration in panel data. *Journal of Econometrics, 90*(1), 1–44.

Kapur, D. (2004). *Remittances: The new development mantra?* G-24 Discussion Paper Series No. 29. United Nations Conference on Trade and Development (UNCTAD). https://unctad.org/system/files/official-document/gdsmdpbg2420045_en.pdf

Karagöz, K. (2009). Workers' remittances and economic growth: Evidence from Turkey. *Yaşar Üniversitesi E-Dergisi, 4*(13), 1891–1908.

Karikari, N. K., Mensah, S., & Harvey, S. K. (2016). Do remittances promote financial development in Africa? *SpringerPlus, 5*(1), 1011.

Khurshid, A., Kedong, Y., Calin, A. C., & Popovici, O. C. (2017). A note on the relationship linking remittances and financial development in Pakistan. *Financial Studies, 21*(4), 110–127.

Kibet, K. S., & Agbelenko, F. A. (2015). Financial development and economic growth in West African Economic and Monetary Union (WAEMU). *African Journal of Business Management, 9*(17), 624–632.

University of Ghana http://ugspace.ug.edu.gh

Kihangire, D., & Katarikawe, M. (2008). *The impact of remittances on macroeconomic stability and financial sector deepening: Opportunities and challenges for Uganda.* BoU Working Paper. Bank of Uganda.

Kim, D. W., Yub, J. S., & Hassan, M. K. (2018). Financial inclusion and economic growth in OIC countries. *Research in International Business and Finance, 43*, 1–14.

Kindleberger, C. P. (1965). *Economic development* (2nd ed.). McGraw-Hill.

Klapper, L., El-Zoghbi, M., & Hess, J. (2021). *Achieving the promise of fintech: Financial inclusion in the post-COVID world*. World Bank Group. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/886881606796704845/achieving-the-promise-of-fintech-financial-inclusion-in-the-post-covid-world

Knowles, J. C., & Anker, R. (1981). *Economic incentives and migration*. Oxford University Press.

Kpodar, K., & Andrianaivo, M. (2011). *ICT, financial inclusion, and growth: Evidence from African countries* (IMF Working Paper No. 11/73). International Monetary Fund. https://doi.org/10.5089/9781455227068.001

Kratou, H., & Gazdar, K. (2016). Addressing the effect of workers' remittance on economic growth: Evidence from MENA countries. *International Journal of Social Economics, 43*(1), 51–70.

Kumar, A. (2005). *Access to financial services in Brazil* (Directions in Development). World Bank. https://hdl.handle.net/10986/13821

Kumar, R. R. (2012). Exploring the interactive effects of remittances, financial development and ICT in Sub-Saharan Africa: An ARDL bounds approach. *African Journal of Economic and Sustainable Development, 1*(3), 214–242.

University of Ghana http://ugspace.ug.edu.gh

Le, T. (2011). Remittances for economic development: The investment perspective. *Economic Modelling, 28*(6), 2409–2415.

Levin, A., Lin, C.-F., & Chu, C.-S. J. (2002). Unit root tests in panel data: Asymptotic and finite-sample properties. *Journal of Econometrics, 108*(1), 1–24.

Maimbo, S. M., & Ratha, D. (Eds.). (2005). *Remittances: Development impact and future prospects*. World Bank. https://hdl.handle.net/10986/7339

Mamingi, N., & Perch, J. (2013). Population growth and economic growth/development: An empirical investigation for Barbados. *Journal of Economics and Sustainable Development, 4*, 295–301.

Maphosa, F. (2007). Remittances and development: The impact of migration to South Africa on rural livelihoods in southern Zimbabwe. *Development Southern Africa, 24*(1), 123–136.

Masoud, N., & Hardaker, G. (2012). The impact of financial development on economic growth: Empirical analysis of emerging market countries. *Studies in Economics and Finance, 29*(3), 148–173.

McKinnon, R. I. (1973). *Money and capital in economic development*. Johns Hopkins University Press.

Mehrotra, A. N., & Yetman, J. (2015). *Financial inclusion — Issues for central banks*. *BIS Quarterly Review, March*, 83–96. Bank for International Settlements. https://www.bis.org/publ/qtrpdf/r_qt1503h.pdf

Metu, A. G., & Chinedu, O. (2013). Impact of remittances on economic growth in Nigeria. *International Journal of Humanities and Social Science, 3*(13), 295–301.

Miles, M. B., & Huberman, A. M. (1994). *Qualitative data analysis: An expanded sourcebook* (2nd ed.). Sage Publications.

University of Ghana http://ugspace.ug.edu.gh

Mlachila, M., Park, G., & Yabara, M. (2013). *Banking in sub-Saharan Africa: The macroeconomic context* (IMF Working Paper No. 13/43). International Monetary Fund. https://doi.org/10.5089/9781475508761.001

Mohan, R. (2006, November 3). *Economic growth, financial deepening and financial inclusion* (Address at the Annual Bankers' Conference). Reserve Bank of India. https://www.rbi.org.in/scripts/BS_SpeechesView.aspx?Id=432

Muhammad, M., & Abdullahi, K. (2020). Impact of external debt servicing on economic growth in Nigeria: An ARDL approach. *International Journal of Business and Technopreneurship, 10*(2), 257–267.

Muliaina, T. (2005). Mismatched perceptions: Views on remittance obligations among remittance senders and recipients. In J. Shaw (Ed.), *Remittances, microfinance and development: Building the links*. The Foundation for Development Cooperation.

Mundaca, B. G. (2009). Remittances, financial market development, and economic growth: The case of Latin America and the Caribbean. *Review of Development Economics, 13*(2), 288–303.

Nahar, F. H., & Arshad, M. N. M. (2017). *Effects of remittances on poverty reduction: The case of Indonesia. Journal of Indonesian Economy and Business, 32*(3), 163–177.

Nyamongo, E. M., Misati, R. N., Kipyegon, L., & Ndirangu, L. (2012). Remittances, financial development and economic growth in Africa. *Journal of Economics and Business, 64*(3), 240–260.

Nzotta, S. M., & Okereke, E. J. (2015). Impact of banking sector development on economic growth in Nigeria. *European Journal of Business and Management, 7*(35), 135–143.

Odeleye, A. T., & Olusoji, M. O. (2016). Financial inclusion and economic growth in Nigeria. *Babcock Journal of Economics, Banking and Finance, 5*(1), 37–54.

University of Ghana http://ugspace.ug.edu.gh

Odozi, J. C., Awoyemi, T. T., & Omonona, B. T. (2010). Household poverty and inequality: The implication of migrants' remittances in Nigeria. *Journal of Economic Policy Reform, 13*(2), 191–199.

Oke, B. O., Uadiale, O. M., & Okpala, O. P. (2011). Impact of workers' remittances on financial development in Nigeria. *International Business Research, 4*(4), 218–226.

Onsando, P. (2007). *The African brain drain: Intellectual diaspora to manage the drain: What are the options?* Paper presented at the African Academic Diaspora conference. Boston College/International Journal of African Higher Education.

Orozco, M., & Fedewa, R. (2005). *Remittances and development: Trends, impacts, and policy options*. Inter-American Dialogue. https://www.thedialogue.org/wp-content/uploads/2018/05/remittances_and_development.pdf

Orozco, M., & Fedewa, R. (2006). *Leveraging efforts on remittances and financial intermediation* (Working Paper No. 24). Inter-American Development Bank. https://publications.iadb.org/publications/english/document/Leveraging-Efforts-on-Remittances-and-Financial-Intermediation.pdf

Orozco, M., Lowell, B. L., Bump, M., & Fedewa, R. (2005). *Transnational engagement, remittances and their relationship to development in Latin America and the Caribbean* (Final Report). Institute for the Study of International Migration, Georgetown University.

Ozili, P. K. (2018). *Impact of digital finance on financial inclusion and stability*. *Borsa Istanbul Review, 18*(4), 329–340.

University of Ghana http://ugspace.ug.edu.gh

Ozili, P. K. (2020). *Financial inclusion research around the world: A review* (MPRA Paper No. 101809). Munich Personal RePEc Archive. https://mpra.ub.uni-muenchen.de/101809/1/MPRA_paper_101809.pdf

Passas, N. (2000). Informal value transfer systems and criminal activities. *Journal of Financial Crime*, *8*(3), 321–327.

Pearce, O. T., & Pelesai, A. N. (2013). Financial development and economic growth in Nigeria. *European Journal of Business and Management, 5*(19), 69–81.

Pedroni, P. (1999). Critical values for cointegration tests in heterogeneous panels with multiple regressors. *Oxford Bulletin of Economics and Statistics, 61*(S1), 653–670.

Pesaran, M. H., & Smith, R. P. (1995). Estimating long-run relationships from dynamic heterogeneous panels. *Journal of Econometrics, 68*(1), 79–113.

Pesaran, M. H., Shin, Y., & Smith, R. J. (2001). Bounds testing approaches to the analysis of level relationships. *Journal of Applied Econometrics, 16*(3), 289–326.

Pesaran, M. H., Shin, Y., & Smith, R. P. (1999). Pooled mean group estimation of dynamic heterogeneous panels. *Journal of the American Statistical Association, 94*(446), 621–634.

Petrozziello, A. J. (2013). *Gender on the move: Working on the migration-development nexus from a gender perspective* (Training Manual). UN Women. https://www.unwomen.org/en/digital-library/publications/2013/12/gender-on-the-move

Pfeiffer, L., & Taylor, J. E. (2008). *Gender and the impacts of international migration: Evidence from rural Mexico* (Working Paper).

University of Ghana http://ugspace.ug.edu.gh

Pieke, F. N., Van Hear, N., & Lindley, A. (2007). Beyond control? The mechanics and dynamics of 'informal' remittances between Europe and Africa. *Global Networks: A Journal of Transnational Affairs, 7*(3), 348–366.

Quartey, P. (2006). *The impact of migrant remittances on household welfare in Ghana* (AERC Research Paper No. 158). African Economic Research Consortium. https://opendocs.ids.ac.uk/opendocs/handle/123456789/2669

Ramírez, M. D. (2013). Do financial and institutional variables enhance the impact of remittances on economic growth in Latin America and the Caribbean? A panel cointegration analysis. *International Advances in Economic Research, 19*(3), 273–288.

Rao, B. B., & Hassan, G. M. (2011). A panel data analysis of the growth effects of remittances. *Economic Modelling, 28*(1-2), 701–709.

Rao, B. B., & Hassan, G. M. (2012). Are the direct and indirect growth effects of remittances significant? *The World Economy, 35*(3), 351–372.

Ratha, D. (2003). *Workers' remittances: An important and stable source of external development finance* (Working Paper No. 3179). World Bank. https://documents.worldbank.org/en/publication/documents-reports/documentdetail/951861468765845074/workers-remittances-an-important-and-stable-source-of-external-development-finance

Ratha, D. (Ed.). (2008). *Migration and remittances factbook 2008*. World Bank. https://openknowledge.worldbank.org/handle/10986/6496

Rioja, F., & Valev, N. (2004). Finance and the sources of growth at various stages of economic development. *Economic Inquiry, 42*(1), 127–140.

University of Ghana http://ugspace.ug.edu.gh

Roa, M. J. (2015). *Financial inclusion in Latin America and the Caribbean: Access, usage and quality* (Research Paper No. 19). Center for Latin American Monetary Studies (CEMLA). https://www.cemla.org/PDF/investigacion/inv-2015-04-19.pdf

Robeyns, I. (2021). The capability approach. In E. N. Zalta (Ed.), *The Stanford encyclopedia of philosophy* (Fall 2021 edition). https://plato.stanford.edu/entries/capability-approach/

Rousseau, P. L., & Wachtel, P. (2002). *Inflation thresholds and the finance–growth nexus. Journal of International Money and Finance, 21*(6), 777–793.

Sapovadia, V. K. (2018). *Digital and internet finance: Future of India's financial inclusion plan* (SSRN Working Paper). SSRN. https://doi.org/10.2139/ssrn.3206678

Sarma, M. (2012). *Index of financial inclusion – A measure of financial sector inclusiveness* (Working Paper No. 07/2012). Centre for International Trade and Development, School of International Studies, Jawaharlal Nehru University.

Sarma, M., & Pais, J. (2011). Financial inclusion and development. *Journal of International Development, 23*(5), 613–628.

Schumpeter, J. A. (1911). *The theory of economic development: An inquiry into profits, capital, credit, interest, and the business cycle* (R. Opie, Trans.). Harvard University Press.

Sen, A. (1999). *Development as freedom*. Oxford University Press.

Senbeta, A. (2013). Remittances and the sources of growth. *Applied Economics Letters, 20*(6), 572–580.

Sharma, D. (2016). Nexus between financial inclusion and economic growth: Evidence from the emerging Indian economy. *Journal of Financial Economic Policy*, *8*(1), 13–36.

Shehu, A. Y. (2012). Promoting financial inclusion for effective anti-money laundering and counter-financing of terrorism (AML/CFT). *Crime, Law and Social Change, 57*(3), 293–313.

University of Ghana http://ugspace.ug.edu.gh

Sibindi, A. B. (2014). Remittances, financial development and economic growth: Empirical evidence from Lesotho. *Journal of Governance and Regulation, 3*(4), 116–124.

Siddique, A., Selvanathan, E. A., & Selvanathan, S. (2012). Remittances and economic growth: Empirical evidence from Bangladesh, India and Sri Lanka. *Journal of Development Studies, 48*(8), 1045–1062.

Singh, R., & Roy, S. (2015). Financial inclusion: A critical assessment of its concepts and measurement. *Asian Journal of Research in Business Economics and Management, 5*(1), 12–18.

Sobiech, I. (2015). *Remittances, finance and growth: Does financial development foster remittances and their impact on economic growth?* FIW Working Paper No. 158, FIW – Research Centre International Economics, Vienna. https://hdl.handle.net/10419/121159

Sobiech, I. (2019). Remittances, finance and growth: Does financial development foster the impact of remittances on growth? *World Development, 113*, 44–59.

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.

Suri, T., & Jack, W. (2022). The long-run poverty and gender impacts of mobile money. *Science, 335*(6075), 553–556.

Swamy, V. (2014). Financial inclusion, gender dimension, and economic impact on poor households. *World Development, 56*, 1–15.

Toxopeus, H. S., & Lensink, R. (2007). *Remittances and financial inclusion in development* (UNU-WIDER Research Paper No. 2007/49). United Nations University World Institute for Development Economics Research (UNU-WIDER). https://hdl.handle.net/10419/63621

University of Ghana http://ugspace.ug.edu.gh

United Nations Conference on Trade and Development. (2012). *Least developed countries report 2012: Harnessing remittances and diaspora knowledge to build productive capacities*. Geneva, Switzerland. https://unctad.org/system/files/official-document/ldc2012_en.pdf

United Nations Development Programme. (2009). *Human development report 2009: Overcoming barriers – Human mobility and development*. New York, NY. http://hdr.undp.org/en/content/human-development-report-2009

United Nations Economic and Social Commission for Asia and the Pacific. (2019). *Asia-Pacific migration report 2020* (ESCAP Migration Series No. 6). United Nations. https://www.unescap.org/sites/default/files/APMR2020_FullReport.pdf

United Nations Economic and Social Commission for Asia and the Pacific. (2019). *Finteching remittances in paradise: A path to sustainable development* (Working Paper Series, Macroeconomic Policy and Financing for Development Division). Bangkok, Thailand. https://www.unescap.org/resources/finteching-remittances-paradise-path-sustainable-development

Wang, X., & Guan, J. (2017). Financial inclusion: Measurement, spatial effects, and influencing factors. *Applied Economics, 49*(18), 1751–1762.

Wines, M. (2007, August 2). Caps on prices only deepen Zimbabweans' misery. The New York Times. https://www.nytimes.com/2007/08/02/world/africa/02zimbabwe.html

Wong, M. (2006). The gendered politics of remittances in Ghanaian transnational families. *Economic Geography, 82*(4), 355–381.

University of Ghana http://ugspace.ug.edu.gh

World Bank. (2008). *Finance for all? Policies and pitfalls in expanding access*. World Bank. https://openknowledge.worldbank.org/handle/10986/2622

World Bank. (2013). *World development report 2013: Jobs*. World Bank. https://openknowledge.worldbank.org/handle/10986/11843

World Bank. (2014). *Global Economic Prospects: Coping with policy normalization in high-income countries* (January 2014). World Bank. https://documents1.worldbank.org/curated/en/152891468168580041/pdf/841740PUB0REPL00Box382131B00PUBLIC0.pdf

World Bank. (2015). *World Development Indicators 2015*. World Bank. https://hdl.handle.net/10986/21634

World Bank. (2016). *Payment Systems Development Group: Methodology for the Smart Remitter Target (SmaRT): A new approach to measuring progress toward the global objectives of reducing the cost of international remittances.* World Bank. https://remittanceprices.worldbank.org/sites/default/files/smart_methodology.pdf

World Bank. (2017). *World Development Indicators 2017*. World Bank. https://hdl.handle.net/10986/26447

World Bank. (2018). *World Development Indicators 2018*. World Bank. https://openknowledge.worldbank.org/handle/10986/30498

World Bank. (2019). *Leveraging economic migration for development: A briefing for the World Bank Board.* World Bank. https://documents.worldbank.org/curated/en/167041564497155991/pdf/Leveraging-Economic-Migration-for-Development-A-Briefing-for-the-World-Bank-Board.pdf

University of Ghana http://ugspace.ug.edu.gh

World Bank. (2020). *World Bank predicts sharpest decline of remittances in recent history* (Press release). World Bank. https://www.worldbank.org/en/news/press-release/2020/04/22/world-bank-predicts-sharpest-decline-of-remittances-in-recent-history

World Bank. (2022). *Remittances grow 5% in 2022, despite global headwinds* (World Bank press release). World Bank. https://www.worldbank.org/en/news/press-release/2022/11/30/remittances-grow-5-percent-2022

Yaseen, H. S. (2012). The positive and negative impact of remittances on economic growth in MENA countries. *Journal of International Management Studies, 7*(1), 7–14.

Yoshino, N., Taghizadeh-Hesary, F., & Otsuka, M. (2017). *International remittances and poverty reduction: Evidence from Asian developing countries* (ADBI Working Paper 759). Asian Development Bank Institute. https://www.adb.org/publications/international-remittances-and-poverty-reduction-evidence-asian-developing-countries

Zins, A., & Weill, L. (2016). The determinants of financial inclusion in Africa. *Review of Development Finance, 6*(1), 46–57.

INTEGRI PROCEDAMUS

University of Ghana http://ugspace.ug.edu.gh

APPENDIX

Table 10. List of countries included in sample

	Countries						
1	Angola	10	Cote d'Ivoire	19	Madagascar	28	Seychelles
2	Benin	11	Eswatini	20	Malawi	29	Sierra Leone
3	Botswana	12	Ethiopia	21	Mali	30	Tanzania
4	Burkina Faso	13	Gabon	22	Namibia	31	Togo
5	Burundi	14	Ghana	23	Niger	32	Uganda
6	Cabo Verde	15	Guinea	24	Nigeria	33	Zambia
7	Cameroon	16	Guinea-Bissau	25	Rwanda	34	Zimbabwe
8	Comoros	17	Kenya	26	Sao Tome & Principe		
9	Congo, Rep.	18	Lesotho	27	Senegal		

INTEGRI PROCEDAMUS