



REMITTANCES AND FINANCIAL DEVELOPMENT IN SUB-SAHARAN AFRICAN COUNTRIES

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ABSTRACT

The influence of remittances on Sub-Saharan Africa's financial growth has drawn scholars' attention as a result of the dramatic rise in international remittances to less developed countries over the last 10 years, particularly Sub-Saharan Africa. Considering this, the study evaluated how remittances have affected financial sector development in Sub-Saharan Africa regional. The research used 32 Sub-Saharan African nations between the years 2000 and 2018 to test the dual gap model's claim that emerging economies may leverage foreign investment to close the investment-saving gap. The Arellano and Bond and Blundell and Bond dynamic GMM estimator was used to address the objective of the study due to the small sample size necessitated by the lack of data availability for several years. The study found that an increase in the influx of international remittances is the driving force for an increase in the level of financial development in the region. It is therefore recommended, among other things, that efforts be made to encourage Sub-Saharan Africans in the diaspora to remit funds to the region. Additionally, the financial services provided by financial institutions in the region should be enhanced, and the financial instruments and payment systems should be enhanced to facilitate the transmission of funds from abroad.

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1. INTRODUCTION

Financial remittances to less developed or underdeveloped countries have increased dramatically in the last decade, especially to African countries. Therefore, several scholars, strategy experts, and government institutions are interested in how international remittances are affecting the development of financial sectors and institutions on the continent. Studies have claimed that recipients of remittances can increase and diversify their family income, which enables them to allocate more money towards food supplies,

increase their access to healthcare, and assist kids' education. Remittances are a substantial source of foreign cash for developing countries since they are transferred to more nations than official development aid (ODA) and foreign private capital combined (Oladipo, 2020).

According to the report that was published by the World Bank in 2019, the overall figure of financial remittances that were sent to help less developed countries in 2018 was \$529 billion. This figure was much higher than the entire official aid to less developed countries, which was reported at \$52.5 billion. In 2021, the primary source of financial flows from overseas to countries with low or middle incomes (LMICs), which accounted for a total of \$605 billion, was remittances, and it was projected that these figures would increase by 4.2% in the year 2022 (Migration Data Portal, 2021). Furthermore, several studies claimed that the second-highest source of funds going into countries located in sub-Saharan Africa (SSA) is financial remittances, which come in second place after foreign direct investment (FDI).

In addition, financial remittances to Sub-Saharan Africa saw the biggest growth since 2018 (Kenya Wall Street, 2022). These remittances climbed from \$44 billion in 2018 to \$49 billion in 2021 (Kenya Wall Street, 2022). In many developing countries, remittances have remained a stable source of foreign finances; for example, in Nigeria, it was recorded that the total amount of financial remittances was \$23.8 billion in 2019, which contributed to loosening restrictions on lending in the country (Oladipo, 2020). According to statistics provided by the Central Bank of Nigeria, remittances have continued to play a role in the country's overall gross domestic product (GDP), exhibiting a consistent growth that has seen them rise from 1.6% in 2001 to 8.3% in 2005. Despite a significant drop to 4.5% in 2012, it has already risen to 6.1% in 2018, and it is projected that it will reach an average of \$24 billion by 2019 (World Bank, 2019; Central Bank of Nigeria, 2019).

According to Aggarwal et al. (2011) and Orozco and Fedewa (2005), foreign remittances may influence financial development in two distinct ways. These two studies provide evidence for this proposition. According to one point of view, remittances have the ability to affect financial growth by expanding the pool of money that may be loaned out by financial institutions or boosting the recipients' access to credit. One other way in which international money transfers may help the growth of the lending sector is that they loosen the financial constraints placed on the recipients of the funds. On the other side, financial development has the capacity to enhance remittances by either ensuring a substantial amount of international inflows of remittances or by decreasing the cost of remittance transactions (Aggarwal et al., 2011). This might lead to an increase in the amount of money that is sent to the recipient country.



Figure 1: Inflows to Sub-Saharan (billions of USD), 1970-2017.

According to the inference that can be drawn from Figure 1, the constant remittances to Sub-Saharan Africa have enticed scholars and policymakers, and this has propelled a vast inquiry of research on financial remittances as well as their impact on many socio-economic factors, one of which is inequality (Howell, 2017; Akobeng, 2016; Wouterse, 2010; Barham & Boucher, 1998; Jones, 1998;); poverty (Bertoli & Marchetta, 2014; Adams & Cuecuecha, 2013; Adams, 2011; Gupta, Pattillo, & Wagh, 2009) education (Zhunio, Vishwasrao, & Chiang, 2012; Gyimah-Brempong & Asiedu, 2015); growth outcomes (Meyer & Shera, 2017); infant mortality (Terrelonge, 2014) and entrepreneurship (Naude Siegel & Marchand, 2017).

Despite various studies conducted on examining remittances and economic growth in Sub-Saharan Africa, very little attention in the academic community has been paid to the relationship that exists between remittances and the development of the financial sector in Sub-Saharan Africa. Even though it is one of the countries with the highest foreign remittances, the economies of Sub-Saharan Africa are beset by weak financial sector growth. This makes SSA economies particularly noteworthy. It is astonishing that there are so few studies that have explored the shifts in the evolution of the financial system in Sub-Saharan Africa, inspired by the enormous amount of foreign remittances to Sub-Saharan Africa.

The few studies that have documented empirical evidence on the link between overseas remittances and the development of the financial sector in Sub-Saharan Africa include those by Karikari, Mensah, and Harvey (2016), Tah (2019), and Olayungbo and Quadri (2019). Additionally, only two of these studies, Gupta et al. (2009) and Aggarwal et al. (2011) examined the relationship between remittances and financial development in SSA under the assumption of parameter homogeneity on panel data sets.

This research empirically supports the relationship between remittances and financial growth in Africa by assessing the impact of foreign remittances on financial development in sub-Saharan Africa. As a consequence, it is still up for debate whether remittances encourage financial development in Africa. The research uses a dynamic panel approach to address the endogeneity problem that the majority of macroeconomic models encountered.

2. LITERATURE REVIEW

2.1 Conceptual review

2.1.1 *Concept of international remittances*

Remittances are the funds that are transferred to members of a migrant's family in the country by the migrant, whether such payments are provided in the form of cash or any other sort of payment. According to a broader definition offered by the World Bank (2020), remittances can be seen to be: (i) money sent back to resident's homes in the country of origin by migrant workers, either in the form of cash or other goods; (ii) the payment of salaries, wages, and other forms of recompense to persons who work in the host country, whether in the form of cash or kind; and (iii) These migrants commonly send cash and other financial assets back to the families at home.

The study of Brown and Ahlburg (2016) defines official and unrecorded remittances as cash transfers that are either made through the formal banking system or informally as bills to households. Additionally, these transfers can be made by migrants on behalf of households, donated to institutions or organizations, or deposited into bank accounts held by migrants abroad. Furthermore, according to Oladipo (2020), migrants have the potential to provide valuable contributions to various institutions and groups. The study of Ajefu and Ogebe (2019), argues that remittances refer to funds or commodities that are

transferred by individuals employed outside their native communities to their country of origin. They include local and international resource transfers between individuals, often in the form of products and services supplied by migrant workers.

Similarly, financial remittances have been a significant means of financial help for individuals residing in various developing countries, including those in urban and rural areas. In the past twenty years, there has been a notable surge in international remittances directed towards developing nations, as evidenced by the increase in figures from \$68 billion in 1990 to \$605 billion in 2021 (Migration Data Portal, 2022). The Sub-Saharan Africa region has experienced a notable reduction in remittances due to the COVID-19 pandemic, with a decline of 8.6% to \$44 billion in 2020, followed by an additional decrease to \$41 billion in 2021 (Ratha, 2021; Kenya Wall Street, 2022).

2.1.2 Concept of financial sector development

The important role of financial development in enhancing productivity and promoting economic growth has been extensively emphasized in literature (Bencivenga & Smith, 1991). Financial development has the potential to augment the overall saving rate and investment level through two distinct mechanisms. Firstly, it can elevate the marginal productive capacity of capital (Goldsmith, 1969). Secondly, it can enhance the efficiency of capital allocation (McKinnon, 1973; Shaw, 1973).

The financial sector includes official and informal economic organizations that provide wholesale and retail financial services to customers, including individuals, enterprises, and other financial organizations. Credit unions, microfinance organizations, and moneylenders are just a few of the businesses that fall under this umbrella term, which also includes insurers, stock exchanges, banks, and other financial institutions. There is no standard definition of financial development. However, some studies show that the effectiveness of financial systems helps in reducing transaction and information costs thereby impacting long-term growth rates, rates of savings, investment choices, and innovation. Different tasks, including trading, hedge trading, diversified portfolios, risk pooling, allocation of resources, managerial supervision, corporate governance, capital mobilization, and the exchange of goods and services, are made possible by financial systems. We establish our benchmark for financial development by dividing the credit to the private sector by financial intermediaries with the GDP.

2.2 Theoretical review

The Harrod-Domar model, which was initially introduced in the early 1990s, puts forth the two-gap framework from a theoretical perspective. As per the two-gap model, the primary predicament encountered by a significant proportion of underdeveloped economies is either an inadequacy of domestic savings to cater to the substantial investment prospects present in those economies or a dearth of foreign currency to finance the essential procurement of intermediate and capital goods (Todaro & Smith, 2012). The aforementioned issues stem from inadequate levels of domestic savings. This perspective is prevalent in the economies situated in sub-Saharan Africa, which are characterized by financial instability, low-income levels, insurgencies, and illicit financial transactions.

In addition, the two-gap model's foreign exchange implications suggest that diverse types of global financing, such as official development assistance, inflows of overseas remittances, or external borrowing, can substantially augment the restricted domestic finance that is necessary to foster the financial sector in Sub-Saharan Africa, and as such, this is deemed necessary due to the presence of the two-gap (Todaro & Smith, 2012). Giuliano and Ruiz-Arranz (2009) conducted an empirical study to evaluate the connection between economic progress and the amount of remittance money sent to less developed

nations. The findings indicated that it is possible for foreign remittances to stimulate economic development through an investment channel. This was shown by the fact that the route was investigated.

2.3 Empirical review

In a separate context, Esteves and Khoudour-Castras (2011) used a pooled OLS approach to investigate whether financial inflows received by countries had any influence on the growth of local financial markets in EU economies. According to the findings, remittances had a beneficial effect on the overall financial development within the EU zone. Fayissa and Nsiah's (2010) study shows remittances to be positively significant on the economy of Latin American countries. Employing the system-generalized method of moment (GMM) and a pooled ordinary least squares (OLS) estimate methodology, Cooray (2012) explored how non-OECD nations' responses to international remittances influenced the efficiency and size of their financial sub-sectors. The research revealed that in the countries that were examined, remittances from abroad make a substantial and positive contribution to the efficiency and scale of the banking industry. Yaseen (2012) conducted research along similar lines when he considered remittances and economic development in MENA nations over a ten-year period. The results indicated that remittances from overseas have improved considerably in order to assist economic growth in the countries that were examined in this research. Imai, Gaiha, Ali, and Kaicker's (2014) study found volatility of remittances in the Pacific and Asia economies with a significant effect on economic performance.

Similar research was conducted by Akonji and Wakili (2013), by considering how international remittance influx affected the expansion of the Nigerian economy. The findings indicated a significant relationship between net remittance and economic growth. There was a significant and positive relationship between remittances and the development of the Malaysian financial sector in the study of Koay and Choong (2013) over the years 1975 to 2009. The study of Karikari et al. (2016) discovered that the growth of the financial sector in the chosen economies was significantly and favorably impacted by foreign remittances.

The results of Motelle's (2011) and Coulibaly's (2015) studies showed that growth of the financial sectors in Lesotho, Senegal, Niger, Sudan, and Sierra Leone is positively impacted by remittances. Williams (2016) investigated how the influx of remittances from outside the region affected the expansion of the banking industry in Sub-Saharan African economies while considering the mediating effect of democratic institutions. The results showed a strong and positive link between international transfers and the expansion of the SSA banking industry.

Olayungbo and Quadri (2019) looked at international remittances, financial sector expansion, and Sub-Saharan Africa's economic development. Using PMG and MG (Pooled Mean Group and Mean Group) estimate methodologies on a panel of 20 Sub-Saharan African economies while taking data from 2000 to 2015. The results showed a significant relationship between worldwide remittances, the expansion of the financial sector, and regional economic growth during both periods. The rise of the financial sector was found to have a one-way causal relationship with both international remittances and economic expansion.

In conclusion, the issue with all of the previous research was that they differed from the current study in that they did not examine the primary driver of the growth of the financial sector in Sub-Saharan African nations. Instead, the majority of research attempted to explain economic growth in Sub-Saharan Africa by including the development of the financial sector as an exogenous variable in the growth model. The

shortcomings of earlier research in the literature on the international remittances-financial sector development model are discussed in the current paper.

3. METHODOLOGY

The dual sectorial gap concept, which contends that emerging economies can utilize foreign inflow of funds to equilibrate the investment–saving gap in the economies, is used in this study to address the study's objective. The current authors extend the dual gap model to incorporate the international remittance inflow's predictive power as it influences the development of the financial sector in Sub-Saharan Africa, taking the following functional form:

$$FD_{it} = \alpha_i + \beta_{i1}REM_{it} + \beta_{i2}EXCH_{it} + \beta_{i3}GFCF_{it} + \beta_{i4}LAB_{it} + \mu_{it} \quad (1)$$

for $i = 1, \dots, 42$, and $t = 2, \dots, 16$.

$$\mu_{it} = v_i + \varepsilon_{it} \quad ; \quad \varepsilon_{it} \sim N(0, \sigma_\varepsilon^2) \quad (2)$$

Where FD stands for financial development which in this study is proxied with credit to the private sector as a percentage of GDP and REM stands for Remittance inflow. EXCH stands for the exchange rate, while GFCF stands for gross fixed capital formation and LAB stands for the size of the labor force.

However, due to the small sample size as a result of the unavailability of the data set for some years, we adopt the Arellano and Bond (1991a, b) and Blundell and Bond (1998) GMM estimator and we specify our model thus:

$$FD_{it} = \alpha_i + \beta_{i1}FD_{it-1} + \beta_{i2}REM_{it} + \beta_{i3}EXCH_{it} + \beta_{i3}GFCF_{it} + \beta_{i5}LAB_{it} + \mu_{it} \quad (3)$$

From equation 3, i represents the country ($i = 1 \dots 42$) while t represents the time period ($t = 2000 \dots 2018$). While, α_i , β_{i1} to β_{i3} represent parameters estimated with the vector of core explanatory variables, α represents country-specific effects and μ represents error term.

The model used data from 32 SSA countries over the period 2000 – 2018. The Data were gathered from the World Development Indicator (WDI) 2017. We adopted a dynamic panel data model to appraise the equation of this study.

When unobservable factors influence the dependent variable and the explanatory variables in a way that some explanatory variables have a strong relationship with the dependent variable's past values, the dynamic panel data estimator is the most appropriate (Blundell and Bond, 1998). This happens in the regressions of the financial development variables. Given the small panel we have, dynamic short panel specification is even more justified for this study. We employ the Arellano and Bover (1995) and Blundell and Bond (1995) system-GMM robustness test (1998).

4. RESULTS PRESENTATION AND INTERPRETATION

4.1 Summary statistics

Table 1: Summary statistics of the variables

VARIABLE	OBS	MEAN	STD. DEV.	MIN	MAX
FD	336	.4193903	.228704	.0037248	.95058
REM	336	4.780623	4.909203	-36.69995	26.41732
EXCH	336	-.4487825	.7008851	-1	.6476249
GFCF	336	.2546005	.223302	-1	1.323073
LOG LAB	336	15.15526	1.335908	12.04081	17.85877

Source: Authors computation from WDI, (2022)

From Table 1 above, it can be deduced that there are no missing observations for all the variables of the study as we have 336 observations in all. The average FD ratio in Sub-Saharan Africa is about 0.419 while the standard deviation is 0.2287. On average, for the period of this study, remittances in Sub-Saharan Africa grew at about 4.78 percent with a standard deviation of 4.9.

4.2 Empirical results and discussion

The results for the panel of 42 Sub-Saharan African economies are presented in Table 2. Panel (1) of the table presents the one-step system GMM, while panel (2) presents the step system GMM. We find that the poverty headcount ratio's own past realizations to be significant and also positive influence, thereby justifying the use of system-GMM.

Table 2: Estimation results of one step and two step system GMM.

F = 673.89	Prob>F=0.000		Number of instruments: 31	
Covariates	One step system	GMM estimation	Two step system GMM estimation	
	<i>Coefficient</i>	<i>Standard error (P. value)</i>	<i>Coefficient</i>	<i>t-statistics</i>
FD L1	.4047098***	.1407442 (0.004)	.4219211***	.1315983 (0.001)
REM	.001777*	.001012 (0.079)	.0023877***	.0007772 (0.002)
EXCH	-.0135533***	.0056634 (0.017)	-.0151894***	.0049073 (0.002)
GFCF	.5317556***	.1101902 (0.000)	.5550301***	.1167338 (0.000)
LOG_LAB	.0157155***	.0062769 (0.012)	.0162242***	.0062548 (0.009)
Constant	-.1168431	.083867 (0.164)	-.1402598	.0975085 (0.150)
Arellano-Bond test for AR (1)	Z= -0.65 Prob>Z= 0.513		Z=- -0.71, Prob>Z= 0.475	
Arellano-Bond test for AR (2)	Z= 1.38, Prob>Z= 0.168		Z= 1.39, Prob>Z= 0.163	
Hansen and Sargan test for the validity of all instruments as a group:				
Sargan test of over-identification restriction	X ² (24) =0.000		X ² (24) = 0.000	
Hansen test of over-identification restriction	X ² (24) =0.521		X ² (24) = 0.521	

Note: ***, ** and * are statistical significance at 1%, 5% and 10% level respectively

As found in Table 2 above an increase in international remittances into SSA economies has a statistically significant and positive effect on financial development in SSA, therefore, an increment in the growth of remittance inflow holding other factors constant, increases the development of the financial sector in this region, although the magnitude signifies a weak impact. Statistically, a unit increase in the rate of international remittance inflow holding other factors constant, increases financial development by about 0.0017. Also, the result of the study shows the existence of a negative impact of the exchange rate on financial development in SSA as indicated by the negative sign of the exchange rate coefficient. According to the table, a unit increase in the exchange rate

decreases in financial development of SSA. While there is a positive and significant effect of gross fixed capital formation on financial development in SSA.

From expectations, remittance inflow is expected to improve the development of the financial sector. The effect of this remittance inflow is supposed to be felt by every sector of the economy such that it will trickle down to the individual households and the financial sector, hence, there ought to be a positively significant impact of remittance on financial development.

However, this study found that an increase in international remittances inflow holding other factors constant, increases the development of the financial sector in the SSA region. This finding is supported by studies such as that of Assefa and Mollick (2017); Anzoategui, Demirgüç-Kunt, and Martínez Pería (2014). The size of the labor force of Sub-Saharan Africa also significantly and positively affected the development of the financial sector in the SSA region as evidenced by the one-step and two-step system GMM estimation in line with the findings of Wondesen and Fekadu (2019), Gebreyesus & Gebru (2015) and Shinyekwa and Lawrence (2013).

Given the probability of chi-square being higher than 5% for AR(2), the Arellano-Bond test for second-order autocorrelation suggests that we are unable to reject the null hypothesis that there is no autocorrelation in the residuals data at level. In a similar vein, the Hansen test for the validity of all instruments was unable to disprove the null hypothesis that all instruments collectively were exogenous.

5. CONCLUSION AND RECOMMENDATIONS

We generated a complete panel dataset of international remittances and financial sector development indicators in SSA covering the years from 2000 through 2018. We applied dynamic system GMM estimation to estimate the international remittance inflow and financial sector development in the region, this permitted us to take cognizance of the endogeneity and short macro panel data nature of the dataset. The results from this study showed that an increase in international remittances inflow holding other factors constant, increases the level of financial development in the region while the exchange rate has a negative relationship with financial development in the long run. The results agree with economic theory and most findings of other authors in the literature.

Therefore, part of the recommendations is that attracting international remittance is of great benefit to the government and people of the Sub-Saharan Africa region as it will help to fasten financial development in the region through alternative financial development mechanisms. Hence, efforts should be made to encourage Sub-Saharan Africans in the diaspora to transfer funds to the region. Also, there should be an improvement in the financial services rendered by financial institutions in the region, financial instruments, and the payment system should be modernized to make the transfer of funds from abroad as easy as possible.

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