

REMITTANCE INFLOWS, FINANCIAL DEVELOPMENT AND ECONOMIC GROWTH NEXUS IN ETHIOPIA

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Abstract:

The study investigates the nexus between remittances, finance and growth in Ethiopia from 1980 to 2020. There has been a significant increase in remittance inflows in recent years across developed and developing countries, and Ethiopia is not an exception. The study seeks to establish the causal relationship between financial development, remittance inflows and economic growth. Using the ARDL and ECM-based Granger causality techniques, the study found that in the short run, a bidirectional causal relationship was found to exist between remittance inflows and finance, regardless of the proxy used. In the long run, a unidirectional causal flow was found to prevail from remittances to finance when financial institution index was used as a proxy. A distinct unidirectional causal flow from remittances to economic growth was found to exist both in the short run and in the long run across all finance proxies.

Key words: Ethiopia; remittances; financial development; ARDL; economic growth

JEL classification: F43; F24

1. INTRODUCTION

The relationship between financial sector development (finance) and economic growth (growth) has attracted attention from researchers since the works of Schumpeter (1911). From this scholarly work, much research has been undertaken to explain the link between these two variables. Empirical studies that have examined the impact of finance on growth are inclined more toward a positive relationship between the two variables (El Hamma, 2017; Masuduzzaman, 2014). In recent times, the increase in remittances across many countries has sparked a new debate about how countries can harness remittance inflows to facilitate development. Increasingly, literature has focused on the impact of remittances and finance on growth. The results from these studies confirm the positive contributions of remittances and finance to economic growth. However, very few studies have fully explored the causality between finance, remittances and growth. In particular, studies that are focused on Ethiopia are very hard to come by. This study came at a time when Ethiopia had unveiled the Ten-Year Development Plan that centres on accelerating sustained growth, among other development agendas, in order to meet the Sustainable Development Goals (SDGs). The primary aim of this study, therefore, is to examine causality between growth, finance and remittances in Ethiopia and to establish whether the demand-following hypothesis or the supply-leading hypothesis holds for Ethiopia.

The study used the ARDL and ECM-based causality techniques to examine this linkage. For robustness checks, the study also used three proxies of finance: the Financial Development Index (FDI), the Financial Institutions Index (FII), and the Financial Market Index (FMI). The study is divided into three models: Model 1, Model 2, and Model 3, capturing the financial development index, the financial institution index, and the financial market index, respectively. To address the omission-of-variable bias, education was used as an intermittent variable, thereby leading to a system of four multivariate equations. This is a departure from most studies that used one proxy of either bank-based or market-based financial development.

In this study, Ethiopia has been selected for a number of reasons. First, Ethiopia has experienced relatively high growth rates in recent years. Second, the launch of the Ten-Year Development Plan, which emphasises accelerated and sustained growth, requires an understanding

of economic growth drivers in Ethiopia. Third, the Ethiopian government has implemented policies that support remittance inflows into the country; hence, it is interesting to examine the nexus between remittances, financial development and economic growth. A study on the role that remittances can play in economic growth will shed light on which policy variables to influence first in order to realise the desired middle-income status in the long run. Based on these important aspects, Ethiopia forms an interesting study country.

The remainder of the paper is divided as follows: Section 2 discusses country-based literature, while Section 3 provides an overview of the empirical literature. Section 4 outlines estimation techniques and data analysis, while Section 5 discusses the empirical results. Finally, Section 5 concludes the study.

2. COUNTRY-BASED LITERATURE REVIEW

2.1 ECONOMIC GROWTH DYNAMICS IN ETHIOPIA

The Ethiopian economic policy rested on the Five-Year Growth and Transformation Plan (GTA), stretching from 2005 to 2020. The first GTA was launched in 2005/06-2009/10 and was named the Plan for Accelerated and Sustained Development to End Poverty (PASDEP). It was inclined towards the achievement of the Millennium Development Goals that expired in 2015 and the long-term vision of moving towards becoming a middle-income country (Ministry of Finance and Economic Development, 2010). The economic policy focus for Ethiopia has always been on broad-based accelerated and sustained economic growth to eradicate poverty. During the PASDEP, the economy grew by an average of 11% per annum, a great feat for the country (Ministry of Finance and Economic Development, 2010). Although great success was recorded for the PASDEP, several constraints were identified, which included financial mobilisation, implementation capacity, inadequate managerial skills in the industry sector, and inflation. The Growth and Transformation Plan 1 was crafted with the lessons learned from PASDEP in mind to address the constraints identified.

The main objective of GTA 1 was to ensure accelerated, broad-based and sustained development. The second GTP was structured as a springboard for the country to realise the long-term vision of a middle-income country by 2025. The overarching objective of the Plan was sustained, rapid, broad-based and inclusive economic growth (UNESCO, 2022). This objective appeared in all the national plans, revealing the strong belief of the Ethiopian leadership in growth as a launch pad for development in other areas (UNESCO, 2022). The current Ten-Year National Plan is not an exception, with its emphasis on sustained, rapid and broad-based development where public and private partnerships are forged. The Ten-Year Development Plan, launched in 2020/21, was crafted based on the challenges identified as high inflation, high and rising debt burden, poor quality health and education services, and poor quality and inequity in infrastructure projects, among others (UNESCO, 2022). The strategic pillars of the country's development plan are to build a climate-resilient green economy; ensure private sector leadership in the economy, undertake institutional transformation, ensure quality growth, improve productivity and competitiveness, and ensure equitable participation of women and children (UNESCO, 2022).

The economic policies adopted resulted in an increase in economic growth from an average of 2,7% between 1980 and 2000 to an average of 9% from 2001 to 2020 (World Bank, 2022). During the period from 1980 to 2000, economic growth in Ethiopia fluctuated between negative and positive growth (World Bank, 2022). However, this changed in the period between 2004 and 2020 (World Bank, 2022). Although the country did not realise the average economic growth of 11% as spelt out in the national plans, growth was nonetheless recorded. The years that recorded growth consistent with the target are 2004, 2005, 2006, 2010 and 2011 (World Bank, 2022). It is worth noting that the resilience that Ethiopia has developed over the years, culminating in growth during the COVID-19 pandemic, is an achievement that most countries failed to attain.

2.2 REMITTANCES DYNAMICS IN ETHIOPIA

Ethiopia embarked on policy reforms that aimed to increase the flow and operations of formal remittance channels and to increase access to international remittance services. One such programme was the Homegrown Economic Reform Programme (HERP), which was launched in 2019. The programme focused on the removal of business constraints and private sector development through policies that aim, among other objectives, to break the monopoly and market distortions in the financial sector (United Nations Capital Development Fund 'UNCDF', 2021). Furthermore, the National Foreign Affairs and Security Policy and Strategy acknowledged the role that the diaspora played in investment and trade ties and encouraged the government to provide an enabling environment for remittance inflows from Ethiopians in the diaspora (UNCDF, 2021). To increase efficiency in the economy, Ethiopian authorities took steps at a national level to digitalise the economy under the Digital Ethiopia 2025. This involved the establishment of digital platforms that allow the use of digital financial services and e-commerce, and the passing of policies focused on the restructuring of the telecommunication market and promoting competition in the information and communication technology (UNCDF, 2021). Several service providers play an important role in the remittance landscape in Ethiopia, which comprises banks, microfinance, remittance service providers, payment service providers and agents. The National Bank of Ethiopia (NBE) provides licences to Transfer Agencies in Ethiopia (NBE, 2022a). Illegal remittance transfers are punishable under the Ethiopian law (NBE, 2022a). Remittance service providers are expected to partner with banks to provide cross-border services. Money transfer operators in Ethiopia include Western Union, Ria Financial, Xpress Money, Dahabshiil, World Remit and Transfast, with 7% of remittances coming through MTO being done through Western Union and 80% in cash (UNCDF, 2021). Despite the reforms aimed at promoting formal channels, there is still evidence of informal networks being used to remit. The main reason attributed to the use of these informal networks is the margin between the formal and informal foreign exchange market, which tends to be favourable in the informal market.

The policy stance on remittances is also reflected in the remittance inflows that Ethiopia has enjoyed since 2004 (World Bank, 2022). Prior to 2004, the country received depressed remittances as a percentage of GDP, which was below 1% (World Bank, 2022). However, from 2004, remittances broke through to a record 1,3% and this flow was maintained until 2016, except for 2009, when 0,8% was recorded (World Bank, 2022). Although a marginal increase was recorded, the inflow plunged again to figures below 1% from 2017 to 2020 (World Bank, 2022). Thus, Ethiopia also faced the same challenge on remittances that were faced by other countries owing to the interruption caused by the pandemic. It is important to note that the remittance inflows have not responded as expected, as evidenced by the depressed figures throughout the study period.

2.3 FINANCIAL DEVELOPMENT DYNAMICS IN ETHIOPIA

The Ethiopian financial system has grown and expanded since the first proclamation, with 29 commercial banks, 18 insurance companies, 40 microfinance institutions, eight payment instrument issuers, and six capital goods finance/lease companies now operating in Ethiopia (NBE, 2022b). The number of banks has increased with the growth in branches from 5564 in 2018 to 8944 branches by June 2022 (NBE, 2022c). The banks have continued to operate safely and soundly, although the need to strengthen capacity remains important to attract investors (NBE, 2022b).

Financial market development in Ethiopia lags behind the bank-based financial development, as evidenced by an index that averaged 0.01 during the study period, while bank-based has an average of 0,22 (IMF, 2022). This reflects an increase in banks and branches in the economy and the proportion of the population that is banked (IMF, 2022). The financial market development index, a composite measure of market- and bank-based financial sector development, remained low, with an average of 0,12 over the study period (IMF, 2022). The financial development index mimics the financial institution index, and high rates were recorded from 1980 to 1995 and 2012 to 2016 (IMF,

2022). Ethiopia has a long way to go in financial development, as reflected by the level of financial development as measured by the financial institution index, financial development index, and financial market index. Figure 1 reports economic growth, financial development and remittance inflows from 1980 to 2020.

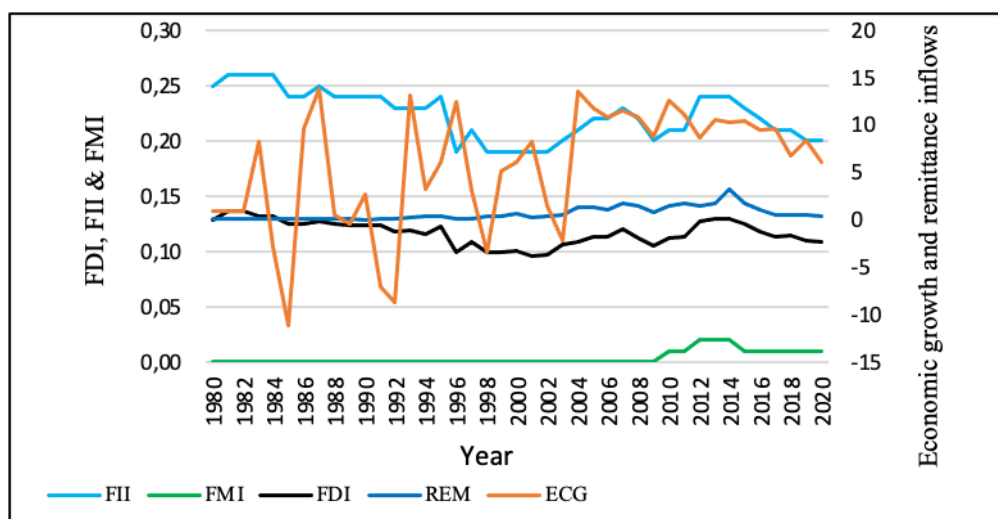


Figure 1. Economic growth, financial development, and remittance inflows for Ethiopia (1980–2020).

Source: IMF (2022) and World Bank (2022).

Figure 1 reports remittances, financial development and economic growth for Ethiopia during the period under study. Economic growth (ECG) fluctuated during the period under study with a general upward trend from 1980 to 2012, before taking a downturn (World Bank, 2022). Although most countries recorded a significant increase in remittance inflows, Figure 1 reports a negligible growth in remittance inflows as a percentage of GDP, where remittances remained below 0,15% for the larger part of the study period (World Bank, 2022). Among the financial development indices, financial institution index, a bank-based measure, recorded the highest index throughout the study period, suggesting the growth of bank-based measures in Ethiopia (IMF (2022)).

3. EMPIRICAL LITERATURE REVIEW

The link between growth and finance was established by Schumpeter (1911) and further developed by McKinnon (1973) and Shaw (1973). According to the different schools of economic thought, the link between financial sector development and growth can either follow a demand-following or a supply-leading hypothesis. According to the demand-led hypothesis, it is growth that influences the need for financial sector development so as to cater for the volume and demand of economic transactions. The supply-led hypothesis, on the other hand, emphasises the availability of financial services that influence economic growth and development. In cases where both finance and growth influence each other, then both demand-led and supply-led hypotheses hold, suggesting the possibility of these two factors influencing each other, thus negating the notion that an economy can either be a demand-following or a supply-leading hypothesis.

This study examines the link between remittances, financial sector development and economic growth by using three measures of financial development indices, namely the financial development index (FDI), financial institution index – an index that measures bank-based financial development, and the financial market index – an index that measures market-based financial development. In the literature, there is a debate about the most comprehensive measure of financial development, with the scale tilted to indices being more preferred.

Indices are more preferred because they can capture multidimensional aspects of each financial development market, either bank-based or market-based. The financial market development indices would give more insight into the causal link among the three variables, taking into account a

number of bank-based and market-based measures. On the remittances, several propositions have been made about the influence of remittances on growth and financial sector development. Although there is no consensus on the nature of the relationship reflected by mixed results in the extant literature, the recent surge in remittance inflows has ignited interest among researchers on how to harness these resources to facilitate development and achieve the Sustainable Development Goals (SDGs).

Although the link between finance and growth is theoretically well-defined, empirical evidence remains inconclusive. While there are a number of studies that have examined the causal relationship between economic growth, finance and remittances, most of those studies have focused on the finance–growth nexus, the remittances–growth nexus, or the finance–remittances nexus. The inclusion of the three variables in one model will give new insight into the causal link between the three crucial variables in economic development. Even the United Nations has pointed out the importance of remittances as a source of development finance, free from interest rates and conditionalities like official development assistance. Owing to the limited literature on the causality among the three variables, this study will review some previous empirical studies on finance and growth, remittances and growth, finance and remittances, or remittances and finance.

Rehman and Hysa (2021), using data from 2000 to 2017, examined the effects of remittances and finance on growth in six Western Balkan countries. Using the GMM estimation technique, the study found that remittances and financial sector development have a positive impact on growth. However, the interaction between finance and remittances had a negative effect on growth. In the same spirit, Olayungbo and Quadri (2019), while examining the link between finance, remittances, and growth, using panel data from 20 SSA countries over the period 2000 to 2015, found financial sector development and remittances to have a positive effect on growth in the short run and in the long run.

El Hamma (2017), while investigating the impact of remittances on growth using data from 12 Middle East and North Africa (MENA) countries during the period from 1984 to 2012, found that there is a complementary relationship between remittances and finance in the process of economic growth in the MENA. The study also found remittances to spur growth in countries with a developed financial system and a strong institutional quality (environment).

Masuduzzaman (2014) examined the role of remittances on growth, including financial sector development as an interactive variable for Bangladesh, using data between 1981 and 2013. Using the Johansen-Juselius cointegration test and the vector error correction model, the study found that remittances positively contribute to financial sector development. Among the studies that examined the impact of financial development and remittances on economic growth, the scale is largely in support of a positive impact of financial development and remittances on economic growth. However, the direction of causality remains important for informed policymaking in Ethiopia. For example, Sibindi (2014) analysed the causality between remittances, economic growth and financial development in Lesotho, using data from 1975 to 2010. Using VECM, the study found a unidirectional causality running from remittances to economic growth. Financial development was found to Granger-cause economic growth, and a unidirectional causality was found from financial development to remittances.

Keho (2020), while examining the impact of remittances on financial development in selected West African countries using data from 1980 to 2017, found that remittances led to reduced domestic credit to the private sector, while contributing to an increase in money supply. Nyasha, Gwenhure and Odhiambo (2016) also examined the direction of causality between finance and economic growth in Ethiopia during the period 1980 to 2014. Using a multivariate ECM-based Granger-causality model, the study found that there is a bi-directional causality between economic growth and financial sector development in the short run, but a unidirectional causality from finance to growth in the long run.

While examining the causal link between growth and remittances in Algeria and Morocco during the period 1970 to 2009 using the ARDL approach, Jouini, Mabrouk and Ben Mim (2021) found that there is a negative long-run relationship between remittances and growth in Algeria.

Where ECM is the error correction term, $\gamma_4 - \gamma_4$ are coefficients of the error correction term, and $\mu_{4t} - \mu_{4t}$ are white-noise residuals. All the other characters and variables remain the same as specified in Equations 1-4.

5. DATA ANALYSIS AND DISCUSSION OF RESULTS

5.1 UNIT ROOT TEST RESULTS

The unit root test was used to test the stationarity of variables included in Models 1, 2 and 3. This was to ensure that no variable included in the model is integrated of order two or higher. The study used the Dickey-Fuller- Generalised Least Squares (DF-GLS) and Phillips and Perron (PP) tests to examine stationarity among the variables. The advantage of using the DF-GLS is that it allows for the testing of stationarity after detrending the series (Elliott et al., 1996), while the Phillips-Perron test (PP) is a non-parametric test, which has the advantage of controlling for serial correlation and heteroscedasticity in the error term (Phillips and Perron, 1988). The results of the unit root test are reported in Table 2.

Table 2. Unit root test results

Dickey-Fuller Generalised Least Squares (DF-GLS)				
Variable	Variables in Levels		Variables in First Difference	
	Without trend	With trend	Without trend	With trend
EG	-1,447	-1,906	-5,052***	-3,366**
FDI	-1,933	-2,058	-2,583**	-3,380**
FII	-1,560	-2,216	-2,632**	-7,732***
FMI	-1,152	-1,892	-3,293**	-3,332**
EDU	-1,008	-1,635	-2,695**	-3,366**
REM	-0,986	-1, 084	-5,787***	-5,873***
Phillips and Perron (PP) Unit root test				
EG	-2,041	-2,234	-8,591***	-8,547***
FDI	-1,789	-1,881	-8,167***	-8,149***
FII	-1,883	-2,138	-8,562***	-8,494***
FMI	-1,216	-1,950	-4,078***	-4,033**
EDU	0,546	-1,484	-2,990*	-3,281*
REM	-2,113	-2,472	-7,155***	-7,341***

Note: *, ** and *** denote stationarity at 10%, 5% and 1% significance levels, respectively.

As shown in Table 2, the results indicate that all variables included in this study are stationary at first difference. The next step is to test for the cointegration of the variables in each model.

5.2 COINTEGRATION RESULTS

Cointegration was tested on Models 1, 2 and 3 to examine whether there is a cointegration relationship among the variables included in each model. Table 3 presents the results of the cointegration test.

Table 3. Cointegration test results

Dependent variable	Function	F-statistic	Cointegration status			
Panel A: Model 1						
ECG	F(ECGGFDI, REM, EDU)	8,4672***	Cointegrated			
FDI	F(FDI ECG, REM, EDU)	1,5669	Not cointegrated			
REM	F(REM FDI, ECG, EDU)	2,7605	Not Cointegrated			
EDU	F(EDU FDI, ECG, REM)	4.5462**	Cointegrated			
Panel B: Model 2						
ECG	F(ECG FII, REM, EDU)	8,4397***	Cointegrated			
FII	F(FII ECG, REM, EDU)	9,2994***	Cointegrated			
REM	F(REM FII, ECG, EDU)	2,1068	Not cointegrated			
EDU	F(EDU FII, ECG, REM)	4,5055**	Cointegrated			
Panel C: Model 3						
ECG	F(ECG FMI, REM, EDU)	8,4238***	Cointegrated			
FMI	F(FMI ECG, REM, EDU)	1,1862	Not cointegrated			
REM	F(REM FMI, ECG, EDU)	2,2815	Not cointegrated			
EDU	F(EDU FMI, ECG, REM)	1,0596	Not cointegrated			
Asymptotic critical values (unrestricted intercept and no trend)						
Critical values	1%		5%		10%	
	I (0)	I (1)	I (0)	I (1)	I (0)	I (1)
	4,29	5,61	3,23	4,35	2.72	3.77

Note: *, ** and *** denote stationarity at 10%, 5% and 1% significance levels, respectively.

The results reported in Table 3 show that there is a long-run relationship among the variables included in some of the functions in Models 1, 2 and 3. This has been confirmed by the calculated F-statistics, which have been found to be higher than the upper-bound critical values. Cointegration was confirmed in the following functions: Model 1, F(ECG|FDI, REM, EDU) and F(EDU|FDI, ECG, REM); in Model 2, (ECG|FII, REM, EDU), F(FII|ECG, REM, EDU) and F(ECG|FII, EDU, REM); and in Model 3, F(FMI|ECG, REM, EDU). The results of the ECM-based multivariate Granger causality are reported in Table 4.

Table 4. Granger causality results for Models 1, 2 and 3

Panel 1	Model 1: Financial development index (FDI)				
Dependent variable	F-statistic [Probability value]				ECM t-statistics
	Δ ECG	Δ FDI	Δ REM	Δ EDU	
Δ ECG	-	0,449 [0,508]	3,496* [0,074]	4,100* [0,051]	-0,965*** [-6,064]
Δ FDI	0,143 [0,708]	-	5,366** [0,027]	1,310 [0,261]	-
Δ REM	9,573*** [0,003]	3,673* [0,065]	-	1,334 [0,257]	-
Δ EDU	0,240 [0,627]	3,680* [0,064]	3,231* [0,082]	-	-0,014*** [-2,775]
Panel 2	Model 2: Financial institution index (FII)				
	Δ ECG	Δ FII	Δ REM	Δ EDU	ECM t-statistics
Δ ECG	-	0,405 [0,529]	3,441* [0,073]	3,703* [0,063]	-0,964*** [-6,054]
Δ FII	0,162 [0,690]	-	4,571** [0,040]	1,387 [0,02]	-0,191** [-2,454]
Δ REM	0,194 [0,664]	3,600* [0,066]	-	1,868 [0,946]	
Δ EDU	1,027 [0,319]	3,662* [0,064]	0,482 [0,086]	-	-0,021*** [-2,727]
Panel 3	Model 3: Financial market index (FMI)				
	Δ ECG	Δ FMI	Δ REM	Δ EDU	ECM t-statistics
Δ ECG	-	0,347 [0,560]	3,162* [0,084]	1,680 [0,204]	-0,967*** [-6,048]
Δ FMI	0,013 [0,909]	-	5,284** [0,028]	0,127 [0,724]	-
Δ REM	0,473 [0,496]	3,800** [0,032]	-	0,430 [0,516]	-
Δ EDU	3,462* [0,062]	1,266 [0,269]	0,131 [0,719]	-	-

Note: ***,**,* indicate significance at 10%, 5% and 1% level of significance.

The results reported in Table 4, Panels 1, 2 and 3 show that there is no causal relationship between finance and growth, irrespective of the proxy used to measure the level of financial sector development. These findings reveal that growth in Ethiopia is not caused by finance, **nor is finance caused by growth**. The study also confirmed that there is a feedback relationship between finance and remittances in the short run across all the measures of financial sector development. A unidirectional causal flow from remittance inflows to finance was only confirmed **when finance was**

measured by financial development index. This shows that remittance inflows influence financial sector development in **Ethiopia and, in turn, financial sector** development drives remittance inflows in the short run across all measures of financial sector development in the short run. Ethiopia needs to take cognisance of the influence that remittances have on its financial sector development in **the long run when bank-based measures** of finance are considered. The results across all models also show that there is unidirectional causality from remittances to economic growth in the short run and long run, irrespective of the financial development measure used. The results indicate the important role that remittance inflows play in influencing growth in Ethiopia. It is worth noting that, although no causal link was confirmed between finance and growth, an indirect influence can be observed through the remittances channel.

Other results show that in Panel 1 (Model 1), there is: i) a unidirectional causality from FDI to education in the short- and long run; ii) a unidirectional causality from education to growth, confirming the importance of human capital in supporting economic growth; and iii) a unidirectional causality from remittances to education in the short- and long run, indicating the importance of remittance inflows in supporting education needs among the families left back home.

In Panel 2 (Model 2), where financial institution index was used as a proxy, the results show that there is: i) a unidirectional causal flow from finance to education in the short- and long run; ii) a unidirectional causality from education to growth, indicating the importance of human capital as one of the factors of production; and iii) no causality between remittances and education irrespective of the time frame under consideration.

Finally, in Panel 3 (Model 3), where finance was measured by financial market index, the results show: i) no causality between finance and education exists in the short run, ii) a unidirectional causal flow from economic growth to education in the short run, showing the importance of education resources that are availed by government and household affordability to send children to school and enhance skills with more income being available in the economy; and iii) no causality between remittances and education exists in the short run.

These results confirm the central role that remittances play in influencing financial sector development and, indirectly, economic growth through the finance channel. Thus, remittances play a key role in influencing growth and financial sector development in **Ethiopia, according to the findings of this study.** Our results are consistent with the findings by El Hamma (2017) in a study on 12 MENA countries, where remittances were found to spur growth. The results are also consistent with the United Nations' thrust **on the promotion of remittances** as a source of financial development, including the Sustainable Development Goals. The drive taken by the government to support remittances in Ethiopia taken by the government will steer the economy to the desired growth, according to **the results of this study.**

6. CONCLUSION

The causal relationship among remittances, growth and financial sector development was examined using the disaggregated financial development data from Ethiopia during the period 1980 to 2020. The study was motivated by the surge in remittance inflows, on the one hand, and the pressure on Ethiopia to raise enough resources to finance key economic variables to meet the 17 SDGs by 2030, on the other hand. Remittances have received attention and policy support in many countries as a source of complementing domestic resources. The question this study sought to answer is 'What is the causal relationship between remittances, financial development and economic growth in Ethiopia?'

Using the ARDL approach to cointegration and ECM-based multivariate Granger causality, the study found no causality between financial development and growth to exist in Ethiopia, regardless of the finance proxy used. A feedback relationship between finance and remittances across all financial development measures was confirmed in the short run. Only a unidirectional causal flow from remittances to financial sector development existed in the long run, when finance was measured by the financial institution index. The study also found a unidirectional causal flow from

remittances to growth in both the long and the short run across all financial development proxies. Although no distinct causal relationship was confirmed between finance and growth, an indirect link can be inferred between finance and growth through the remittances link. Based on the findings of this study, it can be concluded that remittances play a key role in influencing financial development and influence economic growth indirectly through financial development. It is recommended that Ethiopia continue to support remittance policies to benefit from the financial development and economic growth front. Ethiopia can harness remittance inflows as a source of SDG finance, financial development and economic growth. Like many other studies, this study is not without limitations. First, the study used data points from 1980 to 2020. Future studies may extend the dataset to establish whether their result could differ fundamentally from the results reported in this study. Second, although ARDL has the benefit of providing results in both the short and long run, estimation using different techniques may shed different light on the nature of the relationship.

Authors contribution:

Mercy T. Musakwa: The author contributed equally to the sections of the paper.

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