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## Remittances and the future of African economies

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# A G D I Working Paper

WP/21/053

## **Remittances and the Future of African Economies**

Forthcoming in International Migration

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**Remittances and the Future of African Economies****Ibrahim A. Adekunle & Sherifdeen A. Tella**

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**Abstract**

African nations have in time, passed over-relied on remittances inflow to augment domestic finances needed for growth. Despite the volume and magnitude of remittances that have to serve as an alternative source of investment financing, African remains mostly underdeveloped. The altruistic motives of sending remittances to Africa are likely to fade with time. In this study, we argued that the altruistic connection that has been the bedrock of sending money to African countries would eventually fade when the older generation passes away. To lean empirical credence to this assertion, we examine the structural linkages and the channels through which remittances predicts variations in financial development as a threshold for gauging the future of African economies. We gathered panel data on indices of remittances and financial development for thirty (30) African countries from 2003 through 2017. We employed the dynamic panel system generalised method of moment (dynamic system GMM) estimation procedure to establish a baseline level relationship between the variables of interest. We adjusted for heterogeneity assumptions inherent in ordinary panel estimation and found a basis for the strict orthogonal relationship among the variables. Findings revealed that a percentage increase in remittances inflow has a short-run, positive relationship with financial development in Africa. The result further revealed that the exchange rate negatively influences financial development in Africa. Based on the findings, it is suggested that, while attracting migrants' transfers which can have significant short-run poverty-alleviating advantages, in the long run, it might be more beneficial for African governments to foster financial sector development using alternative financial development strategies in anticipation of a flow of remittance that will eventually dry up.

**Keywords:** Remittance; Financial Development; African Economies; System GMM; Africa**JEL Codes:** F37, G21, O16

## **1.0 Introduction**

The issue of human migration dated back to the time a couple of humanity, Adam and Eve, migrated from heaven to earth to start procreation that resulted in over 7.7 billion people today. Of course, diaspora is a derivative from migration, and it referred to as a scattered population whose origin lies in a separate locale (Tella, 2019). If we are indeed the children of Adam and Eve, every human being on earth is in the diaspora. It can, therefore, be stated that man is in constant motion of movement from place to place seeking valuable living standard and for pleasure (Golash-Boza, 2015). Encyclopedia Britannica (2014) explained that one of the largest diasporas in modern time is from Sub-Saharan Africa and this had been so since the Atlantic slave trade where up to 12 million people were moved from West Africa to America as slaves. Since then, Africans have not stopped moving within and to other continents to seek heavenly favour. The African Union (AU) considers the African diaspora as the sixth region of Africa. This is based on the number of Africans in the diaspora. It was estimated that over 39 million Africans were found in North America; 112.65 million in Latin America; 13.56 million in the Caribbean and 3.51 million in Europe (World Bank, 2012). The African diaspora has been estimated as forming 13.6 per cent of the United States population as of 2018 (World Atlas.com).

The World Bank (2018) explained that with one of the highest mobility rates globally, an estimated 41.5 million people migrating from, to and within Africa, African represents the topmost sender of workers remittances inflow around the world. The expanding potentials of African in the diaspora have led to enormous economic opportunity both inside and outside Africa. Supported by the 10% increase in remittance inflows to Africa recently, and is only expected to grow more in the coming few years (World Bank, 2018). There is a perspective from global corners as regards rising numbers of Africans moving to the western world due to better living and working conditions and in no way means economic conditions in Africa has declined.

The economic value that Africans are creating abroad is the primary sources of remittances for African countries. We argue that the altruistic motive for remittances inflow to Africa will gradually decline and reliance on remittances inflow as an alternative source of investment financing will fade out when older African generations that are the bedrocks of this altruistic induced remittances inflow grow old and die and the upcoming generation migrants rarely have

altruistic connections back in Africa. The remittances that have largely been sent on the motive of altruistic connections will therefore decline. For now, data on remittances inflow are naturally viewed within the context of how much money is generated over time, but greater ignorance is shown toward the consequences of mass emigration from Africa that has kept these remittances to increase continuously. The empirical credence for a futuristic decline in remittance flow to Africa has failed to gather momentum even in the face of actual realities that point toward a second and third generation Africa neglecting the altruistic connections when first-generation Africans pass away. This is part of the movement for African leaders to look inward for the development of Africa. We provide experimental proofs on the remittance's consequences for the development of the African economy and the future.

However, we must look at some of this state of affairs to help African countries overcome what could hinder the enjoyment of benefits or gains of diaspora. In this connection, we look at the use of the remittances, relationship between local human capital and the diaspora; and the future of diaspora. Many African central banks see the remittances as part of their reserves that are either kept in the international banks or in the local bank to cushion the effects of drawdown arising from growing imports but dwindling foreign reserves. The confusion as to what the remittances can be used for should be resolved in favour of investing the remittances in interest yielding businesses. The services of international financial investors can be sought in order to invest profitably. More importantly, it is imperative that countries must generate income or find a way of generating incomes from remittances. It is imperative that African leaders should not be carried away by the growing remittances but how the diaspora can be part of the workforce in their homeland.

There is a need for African countries to start looking at the future of gains of diaspora, which is more important, the remittances or the direct participation of the diaspora in the production of their economies. As stated, the remittances will continue to grow because the number of diasporas will continue to grow, but there will come a time when the second or third generation of those in the diaspora will not care about Africa because they have never been home in a long time. Africans in the diaspora must be encouraged to come home periodically so that they can think of direct investment in the economy. With the introduction of the diaspora bond by a few African countries, investment process has started but more still need to be done.

Nevertheless, financial development is the channels through which remittances foster growth and reduce poverty at all level. Brown, Carmignani, and Fayad (2013); Makina (2013); Mundaca (2009) argued that banking remittance recipients help multiply the development impact of remittances. In this paper, we estimated balance data on remittance inflows to all fifty (54) African countries over the period 2003 through 2017 to examine the underlying latent factors of variations in financial sector development in Africa and the implications for the future of African economies. The consequences of remittances of the future of African economies remains *a priori* unclear. It will be interesting to know whether and how remittances predict variations in financial development as an essential threshold for gauging the future of African economies.

As noted by Chin and Wilcox (2010), there is a significant complication in empirically studying the impact of remittances on financial development. The potential for endogeneity biases (problems of cross-sectional dependence inherent in the ordinary panel data estimation) emanating from error in measurement of variables, reverse causation, and problems of omission of crucial explanatory variables have made empirical shreds of evidence mostly anecdotal. Estimates of remittances from the World Bank have been criticised and known to be measured with error because of the dynamic nature of remittances inflow, particularly those that do not go through the formal banking system (Chin, Karkoviata, & Wilcox, 2011). The balance of payments data on remittances lean towards a more accurate record of workers remittances sent through financial institutions and, in most cases, ignore those sent through non-financial institutions and informal channels (e.g., family and friends).

Evaluations of unrecorded transfers range from 50 to 250% of official statistics on remittances (Ratha, Mohapatra, & Silwal, 2011). Problems of reverse causation are huge and call for critical examination in the remittances-financial development discourse since more significant financial development might lead to more substantial remittances inflow either because financial development enables remittance flows or because a more significant percentage of remittances are measured when those remittances are sent through registered financial institutions. Besides, financial development might lower the cost of transmitting remittances, leading to an increase in such flows (Makina, 2013). To conclude, key omitted factors can be essential in explaining both the evolutionary nature of remittances and financial development, and this could lead to biases in the estimated impact of remittances on financial development if not adequately addressed.

Having introduced the study, the rest of the paper is organised as follows. Section 2 discusses the literature review in terms of theoretical underpinning and empirical evidence in chronological order to show the historical progression of the subject matter. Section 3 discusses the data used, and the methodology pursued to study the link between remittances and the future of African economies. Section 4 presents the empirical results and discusses the findings, while Section 5 concludes.

## **2.0 Literature Review**

### **Theoretical Review**

Theoretical constructs of diaspora take root from issues relating to migration. Since migration is a fairly complex process, theoretical issues on diaspora should also be expected to be somewhat challenging to grasp. Thus, it is not possible to explain migration and diaspora with a single of static theory or predict the events for processes of these interchangeable terms. The rationales for the movement of people vary widely, and so is the development of theories to capture events, times, processes and desires to migrate. The theories should deal with the diversity and complexity of events but explain the issue in some simple, comprehensible and real-world manner.

Relying on the paper presented by Amaral (2018) on theories of migration, we discussed the theoretical review of migration and by extension, diaspora within the context of socio-economic conditions. Starting with the Push-Pull model, we posit that migration decisions are determined by factors such as "push" and "pull" from the state of origin and destination. The opportunity of getting jobs or employment which can guarantee an improved standard of living is a significant pull (or attractive) factor in migration while push factors include mainly insecurity, political instability, unemployment and natural disaster.

The neo-classical economic theory views migration primarily as a function of geographical differences in the relative scarcity of labour and income differential. This can be linked to the recurring issue of rural-urban migration within a country or low income to high-income migration across countries. Labour, being the most mobile factor of production, moves around to settle for the best job with the appropriate price for its skills or efforts. Thus, migration makes it

possible for what is termed 'factor price equalisation principle' with scarcity in some locations and surplus in other locations.

The new economics of labour migration (NELM) theory which is neo-classical and a micro-level theory is related to the short-term and particular form of migration. It posits that in most cases in developing economies, migration occurs through household rather than individual decisions. It has to do with remittances and benefits to an entire household. Remittances assists in relieving the pains of poor living conditions in developing countries as it can be invested in production to boost income and savings. The theory cannot, however, explain long-term global migration patterns and trends and how the outcomes are connected to broader development processes.

Functionalist and Structuralism Theory: The structuralism is a theory linked with neo-Marxist and centre-periphery while the functionalist theory is related to neo-classical and push-pull theories. Though they criticise each other, the two theories share the assumptions that:

- i. More development lead to less emigration, and
- ii. Higher development differences across areas, which implies spatial disequilibrium, lead to more migration,

The functionalists assume that socio-economic forces tend towards equilibrium through migration while structuralism belief that a general pattern of disruptions, dislocations and migrations intrinsic to capitalism.

Spatio-temporal migration theories: This refers to migration as a spatial and temporal process. It defines migration as a constituent part of the bigger picture of economic development. The theory shows that global human migration network is more complex and interconnected than expected and will become more woven as time goes on, but it has been found that distinct groups of countries preferentially interact to form migration communities based mainly on historical, cultural and economic factors (Davis, D'Odorico, Lalo and Ridolfi (2013)

The other theories are not all-inclusive and exhaustive but are sufficient to lay a foundation for understanding why people migrate, for what purpose and the implications for development and human existence.



## **Theories of Remittances and Growth Outcomes**

Ample theoretical underpinning on remittances-financial development is presented in chronological order. Such theories range from the optimistic view, pessimistic argument, two-gap model and the endogenous growth model. Remittances optimist include but not limited to; Kindleberger (1959), Todaro (1969), and Beijer (1970). According to this view which emerged in the 1950s and 1960s, return migrants were seen as central agents of change and innovation. People migrate with the motive of sending home money and innovative ideas, knowledge and entrepreneurship skills that could be used to jump-start development processes. (de Haas, 2014). These altruistic motives of remittances inflow are categorised as central to the solution of household maximisation problem, which involves utility maximisation as a result of the change in households' income level, capital injection for investment purposes and the introduction of the knowledge economy as in the technological change model (Kindleberger, 1959).

Contrastingly, the non-altruistic argument of the pessimistic view began to surface late in the 1970s and 1980s. They argued that migration and subsequently, workers remittances create a vacuum of underdevelopment in recipient countries of origin (Fayissa & Nsiah, 2010). Problems of brain drain, moral hazards, dumping grounds, overdependence on foreign capital flow makes recipient countries largely underdeveloped (Lartey, 2013). It is important to note that remittances inflow to African countries and has resulted in the underdevelopment of African nations. Most of the remittances inflow are politically inclined and subsequently leads to problems of rent-seeking (Klein & Rodney, 1974). African primary resources to develop are exported to Europe and exchange for secondary products which worsen the BoP on the international market. To develop the financial sector in Africa, African countries must look inward to create an enabling environment that foreign inflow of funds can leverage upon. Experimental proof of the inward solution to the challenges of African development becomes expedient and the focus of this paper.

The two-gap model was propounded by Harrod-Domar as in Easterly (1999). The two-gap model argued that shortage of domestic saving to match investment opportunities or inadequate foreign exchange to finance required import of capital and intermediate goods are the first problems facing most developing nation (Todaro and Smith, 2012). This assertion is at the peak in African countries because of the low level of income, credit insecurity, problems of insurgency, insecurity and illicit flow of funds. The two-gap implications of foreign exchange imply that

external finance which could be in the forms of external borrowing, official development assistance or remittances inflow can play a crucial role in supplementing inadequate domestic resources required to grow the financial sector in Africa. This study leans empirical credence to the remittances-financial development relationship in Africa. It remains to be established if remittances induce financial development in Africa.

## **Empirical Review**

As important as financial development to the realisations of the development objectives in Africa, few empirical studies have leaned credence to the exact relationship that exists between remittances and financial development in the continent. Conflicting and anecdotal empirical evidence has been reported in the extant literature of remittances and financial development in Africa. This is evident in the studies carried out in a specific country, region or various countries.

Motelle (2011) studied the effect of remittance on financial development in Lesotho using the Vector Error Correction Model (VECM) and found that remittances have a long-run relationship with financial development. It should be noted that VECM is a short run estimation procedure. As such, to have reported a long-run relationship implies a false assumption that is misleading in the remittance-financial development discourse.

Coulibaly (2015) investigates the causal relationship between remittances and financial sector development in Sub-Saharan Africa. They employed the Panel Granger Causality testing approach that is based on seemingly unrelated regressions (SUR) multivariate systems and Wald tests with country-specific bootstrap critical values to estimate annual data from 1980 to 2010 for nineteen (19) SSA countries. Results revealed that remittances positively influence financial development in Niger, Senegal, Sierra Leone and Sudan. Financial development positively impacts remittances only in the Gambia. Results also show that remittances positively affect financial development in Sudan and no substantial evidence supporting the view that remittances promote financial development in SSA countries and vice-versa. The focus of this study was limited to Sub-Saharan Africa, and more importantly, the causal analysis cannot be inferred to mean a regression analysis. Results of the parameter estimate of the unrelated regression panel granger causality analysis were not included in the findings, thus making findings emanating from the study largely adhoc. We build on the study to address the shortcoming by estimating a

Pooled Mean Group (PMG) estimates that disaggregate remittances inflow as a predictor of financial development in Africa.

Akobeng (2016) appraise remittances effectiveness in Africa. By controlling for time-invariant country-specific effects and endogeneity, the study found that remittances reduce poverty. Additionally, remittances have income-equalising effects. A well-functioning financial sector enhances remittances effectiveness in Sub-Saharan Africa. The study adopts various measures of poverty which are likely to be correlated and thus violating the assumptions of the classical linear regression model.

Williams (2016) examined the effect of remittances on financial development in Sub-Saharan Africa (SSA). The study further examines whether and how democratic institutions mediate the effect of remittances on financial development. Using a 5-year non-overlapping panel data for the period 1970 to 2013, findings revealed that remittances are significantly positively associated with financial development. The 5-year overlapping data estimates are questionable and make the results emanating from the study, mostly unfounded. The study used the dynamic system GMM to generate the parameter estimates of the model using a time series of forty-three (43) years in forty-five (45) SSA countries. However, system GMM is well built to function in a short term panel analysis with more significant cross-section and smaller time series characteristics that does not exceed 25 (see Blundell & Bond, 2000; Roodman, 2009 for an extensive review).

Olayungbo and Quadri (2019) examined the relationship between remittances, financial development and economic growth in SSA. They adopt the Pooled Mean Group and Mean Group/ARDL estimations to estimate panel data of key indices from twenty (20) Sub-Saharan Africa countries from 2000 and 2015. They argued that remittances and financial development are positively related to economic growth both in the short-term and the long-run. They also reported a unidirectional causal relationship from GDP to remittances and from financial development to GDP. The focus of their study was at variant to the current study as it does not explain the determinant of financial development in Africa. Instead, they have explained growth outcomes in Africa using depth of financial development as an explanatory factor in their growth model. It should be noted that a sample frame of 2000 to 2015 can not be estimated using the Pool Mean Group (PMG) estimation procedure as it will run into problems emanating from degree of freedom. The Pool Mean Group (PMG) procedure is a variant of the paneAuto-

Regressive Distributed Lag models (Panel ARDL), and they are used to estimate long term panel with broad observation (Pesaran, Pesaran, Shin, & Smith, 1999).

### **Empirical Evidence from Outside Africa**

Giuliano and Ruiz-Arranz (2009) studied the links between remittances and growth. Using the dynamic system GMM to estimate dataset for remittances covering about 100 developing countries, evidence revealed that remittances induce growth in less developed countries. Further evidence revealed that there could be an investment channel through which remittances promote growth. Esteves and Khoudour-Castras (2011) address whether financial flows received by emigration countries contributed to domestic financial development in Europe before 1914 using Pooled Ordinary Least Square Regression (Pooled OLS) estimates. Findings revealed a positive influence of remittances on domestic financial development. Fayissa and Nsiah (2010) explored the aggregate impact of remittances on the growth outcomes in 18 Latin American countries and found that remittances have a positive and significant effect on the growth of Latin American countries

Cooray (2012) examined the influence of migrant remittances on size and efficiency of the financial sector, in ninety-four (94) non-OECD economies using pooled OLS and system GMM estimation procedure. Results revealed that migrant remittances contribute to increasing the size and efficiency of the financial sector. Imai *et al.* (2014) analysed the effects of remittances on the growth of GDP per capita for 24 Asian and Pacific countries from 1980 to 2009 and found that the volatility of capital inflows such as remittances contribute to better economic performance. Cooray (2012), investigated the impact of migrant remittances on economic growth in South Asia and found remittances to positively influence economic growth.

Akonji and Wakili (2013) studied the impact of net migrant remittance on economic growth and found a significant positive relationship between net remittance and economic growth

Keong Choong and Yin Koay (2013) investigated the nexus between remittance and economic growth and found that remittances and financial development to statistically and significantly induce economic growth in Malaysia in the short-run and the long run. Gazdar and Kratou (2012) studied the effect of remittances on economic growth in a panel of 24 African countries and found remittances to be growth-enhancing in countries with developed financial sectors.

Sibindi (2014) examined the causal relationship among remittances, financial development and economic growth in Lesotho and found that remittances cause economic growth without feedback and financial development causes remittances without feedback.

Sobiech (2015) studied the importance of remittances and financial development for 54 developing countries and found a negative effect of remittances on their economic growth. Kibet and Agbelenko (2015) examined the relationship between financial development and economic growth in the West African Economic and Monetary Union (WAEMU) and found positively and statistically significant effect of financial development on economic growth. Karikari *et al.* (2016) examined the nature of causality between remittances and financial developments in some Africa countries and found remittances to positively and significantly influence financial development. Chowdhury (2011) examined the effects of remittances and financial development on economic growth for 33 top remittance recipient developing countries and found remittances to significantly promote economic growth.

We extend the purview of the remittances impact literature, by looking at the major consequences of remittances for the future of African economies with a view of coming up with findings that can redefine policy and research on the subject matter.

### **3.0. Africa and its Diaspora: The Losses, The Gains and The Conundrum**

#### **3.1. The Losses**

Whether, traditionally, African like to move from their continent to other parts of the world or not may require some historical facts. There are lots of different examples that can serve as inferences. The history and facts of slave trade tend to support the notion that Africans were disturbed from their slumber by the slave traders who invaded the West African sub-region to move millions of Africans to America, the Europeans who through colonisation engineer movement of Africans to Europe and the Arabs who sneaked through the northern part of the continent to force migration to the Arab land. On the other hand, when we study the history of wars across territories in Africa and among Africans themselves as communities and countries, one is confused as to whether Africans are complacent when it comes to moving from one location to another as migrants or diaspora.

Whichever way we want to look at the formation of the diaspora in Africa, there have been huge losses of workforce irrespective of whether the forced movement out of African has assisted in reducing the fast-growing population. Though long time or many decades away, the slave trade, the balkanisation of the continent through colonisation and illegal exports of Africa's natural resources have, no doubt caused significant losses including:

- i. initial and permanent losses and dislocation to meaningful co-existence of various sub-regions in Africa;
- ii. disruption of production processes of communal efforts and thus pauperisation of the African people;
- iii. the derailment of the mentality of independent thinking of finding solutions to socio-economic and political problems that are locally formed and can be locally resolved;
- iv. mentality of looking towards others to solve our local problems. That is, those activities of the past have promoted dependency syndrome, particularly on the leadership of Africa.
- v. Permanent damage to self-respect and actualisation of common socio-economic goals.

People often say that for how long shall we mourn on activities of over a century, mainly when most African counties have gained independence for over half a century with enough resources to have turned around economies of various nations into prosperous entities. What we have forgotten is that some actions or activities are transferrable in an unconscious manner. The Western education that were left behind and imbibed today has some preservatives of the culture of the state of origin and the more of its doses you consume directly by studying abroad or indirectly by studying at home and taught by the by-products of that education system, the more difficult it will be to defecate its effects totally.

In the present circumstance, most African countries continue to wallow in growing poverty, and many of the youths are voting with their feet illegally if they cannot pass legally through border armed with American or Canadian lottery. A large proportion of these youths may lack skill, but they are educated and jobless. So, the modern-day losses of Africa's most potent factor of production, labour, through diasporic formation and formulation remain on course as planned by the developed countries.

The African education system is fashioned in such a way that the students lack skills but are enlightened enough to unleash the practical potentials once the right tools and environment are provided. The conducive environment to open up the potentials and the tools or equipment to aid in production processes is not available in desirable content and quantity here. So, the enlightened labour that is continuously in pursuit of unleashing his/her potential and earn appropriate income must seek an avenue to do so. Hence, the migration of the African youths towards America, Canada, United Kingdom or the G7 or advanced economies where jobs are waiting and equipment are available. The implications are that the vagaries of the past neo-colonial losses, as identified above, remain and are being added to the current poverty-induced problem and well-crafted programme of attraction of African youths into modern slavery. Some of the losses that can be identified immediately are:

- i. Continuous loss of beneficial African workforce to developed economies;
- ii. Continuous loss of income that would have to accrue to Africa if these youths remain and work in Africa. Indeed they may earn good money and send a part to their home countries, but are they adequately remunerated for their efforts.
- iii. Inadvertent loss of talents and growth potentials of African economies. Even in football, it is easy to see how these youths in diaspora perform in their clubs but fail to repeat the same performance at home! There is a need to find out what is responsible.
- iv. Permanent loss of generations of African youths that should serve as future potential human capital that will turn things around. The current diaspora keeps and prefers to keep their children abroad forever. These children grow up with a total loss of African culture and adaptability syndrome that makes Africa unattractive to them. However, they prefer second class citizen appellation than being African.

Let us now turn to look at the gains, if any.

### **3.2. The Gains**

The gains, when processing the benefits of the African diaspora, are usually looked at with the prism of how much remittances is being received by African countries from their nationals

abroad. Of course, money is a good measure of achievement and well-being of any society. While the static functions of money is concerned with issues relating to medium of exchange, measure of value or unit of account, store of value and standard for deferred payment, the dynamic functions can be gleaned from the standard of living of the people, the growth in per capita income, economic boom or depression and invariably the income categorisation of advanced, emerging or developing economies.

Within that context, let us recapitulate the record of remittances over the years, as stated in Section 1. The World Bank (2012) reported that before the 2008-2009 world financial crisis, remittances worth US\$22 billion was reported to flow into Sub-Saharan Africa annually. The remittances for 2010 were estimated at US\$21 billion and US\$22 billion in 2011. The estimates for 2012 to 2014 were US\$24 billion, US\$25 billion and US\$27 billion, respectively (World Bank 2012 updated 2019). A further report of the World Bank (2016) on African Diaspora explained that estimates project that US\$53 billion are saved on an annual basis by diaspora from Africa and that by 2040, African diaspora workforce would have surpassed that of China and India which are the largest for now!

The World Bank publication under reference is on African Diaspora Business Dialogue Forum, which was held in 2016. It recognised the tremendous potential wealth and talent existing in the African diaspora. This implies that apart from the monetary gains, the fact of being in diaspora in advanced or industrialised economies has developed the skills, exhumed otherwise buried talents and other potentials of the African diaspora to the advantage of the economies where they reside. According to Lucas (1980) in his endogenous growth theory, human capital is crucial in the determination of growth process because it possesses both internal effects which are internalised by the trained person and external effects which is the spillover of the training and lead to increased productivity of the worker and those working with him. While the firms in the economy have constant return to scale as a result of the potentials exerted by the human capital in that firm, the economic benefits with increasing return to scale.

It can be inferred from the above that the gains from the diaspora can be conveniently divided into three viz

- i. financial returns to the motherland;
- ii. the acquired skills as an embodiment of human capital; and



- iii. potential skill yet to be released.

The financial return to Africa from the diaspora is enormous and very useful in a continent that has serious savings gap because of low income. There have been concerns about the low level of saving in Africa, and the need to mobilise domestic saving has been regarded as very urgent and essential because of dwindling external source of finance. Since saving competes with consumption in the income equation, and income is low while demand to meet basic needs by teeming African population requires that much of that low income be spent to achieve the fundamental need objective, we must think of improving income first before much concern for increased saving. If data set exists for the use of remittances to households in Africa, it will become clear that much of the funds go for consumption. So, we can opine that remittances to households have been keeping many families alive, which is a significant gain. But, what is more, important is that since the remittances come in foreign currencies and banks pay in local currencies, the Central Bank must find a way of investing part of the remittances to generate employment and income within their economies rather than continue to use same to support the value of domestic currency against key currencies. Some recent studies have shown that remittances, in the short run and long run, promote the development of the financial sector of recipient economies including that of African countries (Mundaca, 2009; Chowdhury, 2011; Coulibaly, 2015; Tella and Adekunle, 2019)

The acquired skills by the African diaspora are of great value to the development of the continent but do they work here? The spillover benefits of such skills are enjoyed by the economies where they reside. We think that is why many of the diaspora citizens do organise programmes, particularly in areas of health and education, carried out in their countries of origin. Direct long term participation in enterprises and production is of more significant benefits than ad hoc services. Therefore, the primary beneficiaries of the output from the skills acquired are the countries of residence. This implies that the gains that are derivable from this aspect of diaspora benefits are limited. Long-run results of studies on remittances and development in Africa show that skilled labour participation rate (human capital), capital stock, and remittances have a positive relationship with financial development in Africa (Aggarwal *et al.*, 2011; Anzoategui, Demiguc-kunt and Peria, 2014; Tella and Adekunle, 2019).

The potential skills yet to be unleashed have the cumulative effect of a jump-starting new level of development in beneficiary economies. The gains from this source may not be realised unless some of them return home before growing too old to be useful to the home economy. By and large, the first gain of the African diaspora lies in the remittances and the use in which each country invest the fund. We, therefore, move to the Conundrum in the next section.

### **3.3. The Conundrum**

By conundrum here, one means some level of confusion or severe problems that invariably affect the benefits derivable from diaspora activities and processes. It is imperative that we look at some of this state of affairs to help African countries overcome what could hinder the enjoyment of benefits or gains of diaspora. In this connection, we look at the use of the remittances, relationship between local human capital and the diaspora; and the future of diaspora.

Many African central banks see the remittances as part of their reserves that are either kept in the international banks or in the local bank to cushion the effects of drawdown arising from growing imports but dwindling foreign reserves. The confusion as to what the remittances can be used for should be resolved in favour of investing the remittances in interest yielding businesses. The services of international financial investors can be sought in order to invest profitably. More importantly, it is imperative countries must generate income or find a way of generating incomes from the remittances. It is imperative that African leaders should not be carried away by the growing remittances but how the diaspora can be part of the workforce in their homeland.

At some point in Nigeria, the National Universities Commission (NUC) introduced a programme that could bring academics from the diaspora to come home and participate in teaching and research in any university of choice. The programme seems unsuccessful, and my investigation shows that there was mutual suspicion between the local academics and the diaspora. The people from diaspora feel that they are experts and look down on local academics as incompetent. The local academics feel the diaspora academics are arrogant in their dealings and were always blocking them from coming such that refuse to request for the services of such experts. If this is extended to other sectors of the economy, the likelihood is that the diaspora will soon get frustrated and the country will be the worse for it. This can be extended to other countries. In this context, African countries as a group or individual must develop some scheme that will make them benefit from the skills of their diaspora.

Thirdly, there is the need for African countries to start looking at the future of gains of diaspora. Which is more critical, the remittances or the direct participation of the diaspora in production of their economies. As stated, the remittances will continue to grow because the number of the diaspora will continue to grow, but there will come a time when the second or third generation of those in the diaspora will not care about Africa because they have never come home. African in the diaspora must be encouraged to come home periodically so that they can think of direct investment in the economy. With the introduction of the diaspora bond by a few African countries, investment process has started but more still need to be done.

## 4.0 Methodology

### 4.1 Theoretical Framework and Model Specification

In accounting for the future of African economies as induced by remittances inflow and the overriding influence on financial development as a threshold for gauging the future of African economies, the study follows the dual gap theoretical model. The dual gap theory argues that developing countries can use foreign inflow of funds to achieve equilibrium in their saving-investment gap. The equilibrium position of the two-gap model gives saving equals investment at all time as:

$$S_t = I_t \quad (1)$$

African countries are characterised by low saving with high investment objectives causing a vacuum (saving gap); thus, creating a function for the foreign inflow of fund (remittances) to bridge the investment deficit in the short term:

$$S_{it} + REM_{it} = I_{it} \quad (2)$$

Invariably, we re-evaluate our capital stock function to include remittances inflow to Africa:

$$K_{it} = S_{it} + REM_{it} + (1 - \delta)K_{it-1} = I_{it} \quad (3)$$

Expressing the capital stock equation in a Cobb-Douglas production function, we have:

$$Y_t = AL_{it}^{1-\alpha} K_t^\alpha \quad (4)$$

Where  $Y_t$  is the financial sector development measured with the growth of nominal credit to the private sector;  $L_t$  is labour proxied with labour participation rate and  $K_t$  is the capital stock proxied with gross fixed capital formation. An extension of the dual gap theory to include the predictive capacity of remittances inflow as it induces changes in financial development in Africa make the functional form of the model to be;

$$FD_{it} = A + \sum_{i=1}^{n=1} \gamma_n AL_{it} + \sum_{i=1}^{n=1} \pi_n K_{it} + \sum_{i=1}^{n=1} \omega_n REM_{it} + \sum_{i=1}^{n=1} \beta_n EXC_{it} + \mu_{it} \quad (5)$$

Note that  $\gamma$ ,  $\pi$ ,  $\omega$  and  $\beta$ , are the elasticities of human capital (L), physical capital (K), remittances inflow and control variable (exchange rate) respectively.  $FD_{it}$  is financial development in Africa countries (a gauge for the future of African economies),  $A$  is the efficiency of the productive economy,  $AL$  is labour force or the working population,  $k_t$  is domestic capital stock,  $REM$  is remittances inflow,  $i$  is cross-sectional characteristics, and  $t$  is the time series characteristics of the data set (2003 to 2017).

The empirical strategy is to estimate a series of baseline fixed effects estimators by assuming that all explanatory variables are strictly exogenous. Second, we estimate dynamic panel *system* GMM and impose (and test) the common factor restrictions to account for the potential endogeneity of remittances and the future of African economies.

If the assumption of strict exogeneity on remittances and the future of African economies is violated, our baseline fixed effects estimator is potentially inconsistent. Therefore, to obtain asymptotically consistent parameter estimates, we estimate single equation dynamic GMM estimators by using a common factor representation (Blundell & Bond, 2000b)

The dynamic panel regression model to capture the relationship between remittances and the future of African economies is specified as follows:

$$FD_{it} = \rho + \omega FD_{it-1} + \theta \sum_{i=1}^{n=1} \omega_n REM_{it} + \sum_{j=1}^k \delta_j X_{j_{it}} + \mu_{it} \quad (6)$$

$j = 1 \dots \dots, k, i = 1 \dots \dots n, t = 1 \dots \dots T$

Where all variables remain as earlier defined.  $\rho$  gives the value of the dependent variable when explanatory variables are zero,  $X_{jit}$  is the other regressors included in the model as control variables for country  $i$  over period  $t$ ,  $j$  is the numbers of included control variables,  $\omega, \delta$  and  $\theta$  are the parameter estimates measuring the impact of explanatory variables on the dependent variables.

A country-specific fixed effect is assumed for the disturbance term as follows:

$$\varepsilon_{it} = e_i + \mu_{it}$$

where  $\varepsilon_{it}$  represents error term. It entails  $e_i$ , which represents country-specific fixed effects that are time-invariant, meanwhile,  $\mu_{it}$  is assumed to be independent with zero (0) mean (normal distribution) and constant variance  $\sigma_\mu^2$  both over time and across countries that is,  $u_{it} \approx n(0, \sigma_\mu^2)$ .

To adjust for the violation of the orthogonal assumption in the dynamic model in (6), we differenced the equations as

$$\Delta \ln FD_{it} = \rho + \omega \Delta \ln FD_{it-1} + \theta \sum_{i=1}^{n=1} \omega_n \Delta \ln REM_{it} + \sum_{j=1}^k \delta_j \Delta \ln X_{jit} + \Delta \mu_{it} \quad (7)$$

However, estimating the ordinary least square on the first differenced dynamic panel model still, violate the strict exogeneity assumption since the transformed error term  $\Delta \mu_{it}$  still correlates with  $FD_{it-1}$  since both contain  $\mu_{it-1}$ . The possibility of the  $E(FD_{it-h} \Delta \mu_{it}) = 0 \forall h \geq 2, t = 3, \dots, T$  makes it possible to use the lagged variable as instruments to adjust the explanatory variables to be orthogonally consistent as in Anderson and Hsiao (1982); Blundell and Bond (2000); Blundell, Bond, and Windmeijer (2000a)

## 4.2 Data Sources and Measurements

Our study used panel data for thirty (30) African countries based on regional classification. Africa is divided into five (5) major regions. The regions are Southern Africa (South Africa, Zimbabwe, Botswana, Lesotho, Namibia, Zambia and Angola), East Africa (Kenya, Burundi, Tanzania, Eritrea, Ethiopia, Madagascar and Rwanda), Equatorial Africa (DR Congo, Cameroun,

Gabon, Central African Republic, and Equatorial Guinea), West Africa (Nigeria, Ghana, Senegal, Benin, Burkina Faso, Cape Verde and Ivory Coast) and Africa Transition Zone (Mali, Sudan, Burkina Faso, and The Gambia). The choice of countries is guided by the desire to limit attention to Africa countries, and by the availability of reliable data on remittances and financial development. Structural component characteristics of variables across this region are assumed to exhibit substantial homogeneity (Bell & Jones, 2015; Honaker, King, & Blackwell, 2011). The data are mainly obtained from the World Bank Database (World Bank, 2017). The variables of the study and their respective descriptions and sources are contained in Table 1

**Table 1: Variable Description**

<b>Abbreviation</b>	<b>Description</b>	<b>Variable</b>	<b>Source</b>
<b><math>FD_{it}</math></b>	Financial development	Nominal credit to the private sector	World Development Indicator (WDI), 2017
<b><math>AL_{it}</math></b>	Labor	Labor Participation Rate	World Development Indicator (WDI), 2017
<b><math>K_{it}</math></b>	Capital Stock	Gross Fixed Capital Formation	World Development Indicator (WDI), 2017
<b><math>REM_{it}</math></b>	Remittances	Remittances inflows	World Development Indicator (WDI), 2017
<b><math>EXC_{it}</math></b>	Exchange Rate	Nominal Exchange Rate	World Development Indicator (WDI), 2017

## **Empirical Strategy**

In accounting for the dynamics of remittances and the future of African economies in Africa, the study made use of a four (4)-prong econometric procedure. First, is the pre-estimation assessment using the descriptive statistics method to help show, describe and summarise the data in a meaningful way and also to know if the data are normally distributed through their averages and Jarque-Bera values (Gujarati and Dawn, 2009). Secondly, the Panel Unit root testing to ensure the variables under investigation are covariance-stationary. The tools used here for detecting non-stationarity of the data are the panel unit-root tests developed by Levin, Lin, and

Chu (2002a), and other researchers. The more traditional unit-root tests, such as the Dickey-Fuller, Augmented Dickey-Fuller (ADF), Phillips-Peron, and KPSS tests, may also be applied to serve the same purpose. However, those univariate/single-equation methods are well known for their low power in small samples. By contrast, the panel unit-root tests can be more potent than the conventional tests since they combine the information from the time-series dimension with that from the cross-sectional dimension.

Since the pioneering work of Levin *et al.* (2002a), several panel unit-root tests have become available. Here we use the tests developed by Levin *et al.* (2002a); and Im, Pesaran, and Shin (2003a). As in the literature, the tests are based on estimating the model:

$$\begin{aligned} \Delta Y_{it} &= \alpha_i + \eta_i y_{it-1} + \delta_{it} + \sum_{k=1}^{k_i} \theta_i^{(k)} \Delta y_{it-k} + \varepsilon_{it} \\ \varepsilon_{it} &\sim iid N(0, \theta_\varepsilon^2) \quad i = 1, 2, \dots, N, t = 1, 2, \dots, T \end{aligned} \quad (8)$$

Where  $y_{it}$  denotes the variable  $y$  observed for the  $i$ th of  $N$  entities in the  $t$ th of  $T$  periods, and  $\Delta$  is the difference operator. The LLC test involves the null hypothesis  $H_0 : \rho_i = 0 \forall i$  against the alternative  $H_A : \rho_i = \rho < 0 \forall i$ . The Breitung test does not employ a bias adjustment, which results in a substantially higher power than that of the LLC test. The IPS test involves the same null hypothesis as the last test, but its alternative hypothesis allows for non-stationarity for some individuals. The idea of IPS is to compute the average of the individual ADF test statistics.

Once stationarity of the variables has been verified, the dynamic system GMM was used to account for the structural dynamics of the model.

## 5.0 Results

The summary statistics result in Table 2 shows the mean and median values of the variables in the panel dataset lie within the maximum and minimum values indicating a high tendency of the normal distribution. All the variables are positively skewed. The kurtosis statistics showed that all the variables were platykurtic, suggesting that their distributions were flat relative to a normal distribution (values are less than 3) except for physical capital having a value greater than 3, hence, leptokurtic. The Jarque-Bera statistics shows that the series is normally distributed since the p-values of all the series are not statistically significant at 5% level. Thus, we have to accept the alternate hypothesis that says each variable is normally distributed.

**Table 2: Summary Statistics**

	<b>FD</b>	<b>L</b>	<b>K</b>	<b>REM</b>	<b>EXC</b>
<b>Mean</b>	5.672	2.623	2.144	3.549	2.767
<b>Median</b>	4.655	2.905	1.494	2.438	3.222
<b>Maximum</b>	9.988	9.993	8.818	4.459	8.188
<b>Minimum</b>	-1.717	3.622	4.968	1.237	2.112
<b>Std. Dev.</b>	4.232	8.223	1.889	2.458	1.787
<b>Skewness</b>	3.371	-0.523	2.332	1.483	1.222
<b>Kurtosis</b>	1.643	2.116	7.939	1.744	1.228
<b>Jarque-Bera</b>	1886.010	17.575	267.762	432.359	353.637
<b>Probability</b>	0.281	0.1493	0.436	0.314	0.737
<b>Observations</b>	1728	1728	1728	1728	1728

**Source:** Author, 2019

**Note:** The summary statistics were computed before taking the natural logs

### The Panel Unit Root Tests

The outcomes of Levin-Lin and Chu (LLC) and the Im-Pesaran-Shin (IPS) test are shown in Table 3. All tests confirmed that variables were non-stationary at levels and are stationary after first difference. It is as a result of this inferred that variables are first differenced stationary.

**Table 3: Panel Unit Root Test**

<b>Variables</b>	<b>FD</b>	<b>L</b>	<b>K</b>	<b>REM</b>	<b>EXC</b>
<b>Levin-Lin-Chu (LLC)</b>	1.4552*	1.6633*	0.5424**	1.5428**	3.5353**
<b>Im-Pesaran-Shin (IPS)</b>	-1.6663*	0.8634**	-0.5523*	-1.8734**	-0.4353**

\*Significant at 1 %; \*\* significant at 5 %

**Source:** Author, 2019

**Table 4**

### *Empirical Result from the Dynamic System GMM- Robust Two-Step Estimate*

<b>Dependent Variable: Financial Development (<math>\Delta \ln FD_{it}</math>)</b>			
<b>Variables</b>	<b>Coefficients</b>	<b>T-Statistics</b>	<b>P-Value</b>
<b>Constant <math>\rho</math></b>	0.5363	2.5535	0.0000*
<b>FD<sub>it-1</sub></b>	0.6367	1.5422	0.0233**
<b>AL</b>	0.7656	1.9877	0.0545*
<b>K</b>	0.7271	3.7373	0.0223**
<b>REM</b>	0.9773	2.4556	0.0887**
<b>EXC</b>	-0.3221	-2.3346	0.0011*

\*Significant at 1 %; \*\* significant at 5 %

**Source:** Author, 2019



From Table 4, The coefficient of the lagged dependent variable is positive and statistically significant at 5% level. This conforms with the theoretical assertion that previously attained level financial development influences prevailing financial development level. Thus, a percentage increase lagged dependent variable will result in 0.64 percentage increase in attainment of financial development in Africa. Also, the labour participation rate, gross fixed capital formation, and remittances inflow are positive and statistically significant at 5% exhibiting a linear relationship with financial development in Africa. A percentage increase in the labour participation rate, gross fixed capital formation, and remittances inflow will result to 0.77, 0.73, 98 percent increase in financial development in Africa respectively. Meanwhile, the exchange rate is negative and statistically significant at 1% level of significance. This implies that a percentage increase in exchange rate will result in a percentage decrease in financial development in Africa.

**Table 5: Post Estimation Results**

***Test of Validity of Instruments***

F-test of Joint Significance	<b><math>F = 1237.14</math></b>
Arellano Bond for AR(1) in First Differences	$z = -1.37$ $pr > z = 0.0001$
Arellano Bond for AR(2) in First Difference	$z = -0.56$ $pr > z = 0.142$
Hansen J-Test for Overidentifying Restrictions	$Chi2 (4) = 1.74$ $Prob > chi(2) = 0.742$

\*Significant at 1 %; \*\* significant at 5 %

*Source: Author, 2019*

Table 5 is used to test the validity of the instrument used in the system GMM technique. Compared to the OLS model system GMM does not assume normality, and it allows for heteroscedasticity in the data. Dynamic panels irrespective of the kind of model are known for the problems of heteroskedasticity in the data set which can be controlled (Baltagi, Bun, & Sarafidis, 2015). The system GMM approach assumes linearity and that the error terms not autocorrelated justifying the need to test for the validity of the instruments through the examination of the first order and second-order autocorrelation in the disturbance term. In tandem with Arellano and Bond (1991), the GMM estimator requires the presence of first-order serial correlation and not the second-order serial correlation in the residual term. Since the null

hypothesis inference assumes no first-order and second-order serial correlation, we reject the null hypothesis in the first-order serial correlation and accept the null hypothesis for second-order serial correlation test in order to obtain appropriate diagnostics. The result above confirms the existence of first-order serial correlation since null hypothesis of first-order serial correlation was rejected ( $z = -2.54$ ;  $p < 0.05$ ) at 5% significance level and no second order serial correlation since null hypothesis of no second order serial correlation is accepted because calculated  $z$  is not statistically significant at 5% ( $z = -0.84$ ;  $p > 0.05$ ). Thus, supporting the validity of our model specification.

The Hansen J-statistics test the null hypothesis of correct specification and valid overidentified restrictions, i.e. the validity of instruments (Oguzie, Onuoha, & Onuchukwu, 2005). They argued further Hansen J-Statistics is the most commonly used diagnostics test in GMM estimation for assessment of the appropriateness of the model. The results of the Hansen J-Statistics of overidentifying restrictions do not reject the null hypothesis at any conventional level of significance ( $p > 0.05$ ; *i.e*  $p = 0.851$ ), thus, confirming the model has valid instrumentation. The F-statistics value all the variables are jointly significant at 5% level of significance.

**Table 6: Robustness Results**

*Pooled Ordinary Least Square Results*

<b>Dependent Variable: Financial Development(<math>\Delta \ln FD_{it}</math>)</b>			
<b>Variables</b>	<b>Coefficients</b>	<b>T-Statistics</b>	<b>P-Value</b>
<b>Constant <math>\rho</math></b>	0.2331	1.7373	0.0001*
<b>FD<sub>it-1</sub></b>	0.6442	2.5632	0.0432
<b>AL</b>	0.4422	2.7632	0.0021*
<b>K</b>	0.7331	1.4322	0.0042*
<b>REM</b>	-0.3662	-1.6363	0.0003
<b>EXC</b>	0.6532	3.6521	0.1221

\*Significant at 1 %; \*\* significant at 5 %

**Table 7*****Fixed Effect Results***

<b>Dependent Variable: Gender Equality (<math>\Delta \ln FD_{it}</math>)</b>			
<b>Variables</b>	<b>Coefficients</b>	<b>T-Statistics</b>	<b>P-Value</b>
<b>Constant <math>\rho</math></b>	0.5556	1.4442	0.0001*
<b><math>FD_{it-1}</math></b>	0.2864	2.6362	0.0341**
<b>AL</b>	0.7325	1.7428	0.0061*
<b>K</b>	0.9745	2.5429	0.0453**
<b>REM</b>	-0.6582	-2.5423	0.0032*
<b>EXC</b>	0.3423	1.7737	0.1145

\*Significant at 1 %; \*\* significant at 5 %

*Source: Authors, 2019*

In order to check the validity of the system GMM results, the study also employed pooled OLS and Fixed effects in consonance with Blundell, Bond, and Windmeijer (2000b). They suggested additional detections of dynamic panel validity by checking if the estimated coefficient of the lagged dependent variables lies between the values obtained from pooled Ordinary Least Square (POLS) and Fixed Effect (FE) estimator. Our results established that the in the Tables 6 and 7 above, the coefficient of the lagged dependent variables of the system GMM results lies between the values obtained from POLS and FE estimators ( $FE = 0.2864 < GMM = 0.6367 < POLS = 0.6442$ ).

## **6.0 Conclusion and Policy Implications**

In this paper, we used a comprehensive cross-country dataset of remittances inflow and financial development in Africa from 1986 through 2017. In evaluating its objectives, the paper adopts the dynamic system GMM to account for the short-run dynamics of the model as well as established the robustness of the model of remittances and the future of African economies. The short-run estimates revealed that remittances inflow has a positive relationship with financial development in Africa. The result further revealed that exchange rate negatively influences financial development in Africa. The results agree with the findings of Aggarwal *et al.* (2011); Anzoategui, Demirgüç-Kunt, and Martínez Pería (2014); Assefa and Mollick (2017); Giuliano and Ruiz-Arranz (2009); Chowdhury (2011); Coulibaly (2015); Mundaca (2009). It is therefore recommended that attracting migrants' transfers have significant short-run poverty-alleviating advantages. In the long run, it might be more beneficial for African governments to foster financial sector development using alternative financial development strategies. However,

improved financial services, financial instruments and the payment system are necessary for economic growth in African countries both in the short run and long run. The short and the long-term financial policies in African should be focused on improving the financial sector performance through the formulation and implementation of sound financial reforms to deepen the financial sector. There should be diversification of the banking services and increased financial inclusion such as the use of mobile banking, internet banking, automated Teller machines (ATM) and rural banking that will integrate more remittance-recipient households in Africa countries from the informal financial sectors into the formal financial system for inclusive growth.

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