International Migrant Remittance and Economic Growth in Developing Economies

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Abstract
The study investigated international migrant remittances and economic growth in developing economies: A comparative study of Nigeria and South Africa. The specific objectives were to; examine the effect of migrant remittance on economic growth in Nigeria, to examine the effect of remittance on economic growth in South Africa. Data were sourced from Central Bank of Nigeria statistical Bulletin and World Development Index (WDI) from 1983 to 2022. Exploratory design was used in this study. The study adopted ARDL model to establish the effect of independent variable on dependent variable. From the results of the analyses, the ARDL revealed that remittance and economic growth had positive and non-significant in Nigeria. On the other hand, remittance and economic growth had a positive and non-significant in South Africa. Based on the findings, the following recommendations were made; Government should improve relation with foreign countries so as to reduce barriers of migration and more citizens can work abroad and send remittances back home; Governments and policymakers should put more emphasis on migration policies, and require amendment for the proper implication of these policies and the productive use of remittances to secure economic growth.
Keywords: *International migrant remittances, exchange rate, economic growth.*

Introduction

International remittance has been recognized as an important source of income to the economy of most developing countries. It refers to the transfer of funds by migrants living and working abroad to their home economies. International remittance has grown rapidly in the past few years and now represents one of the major sources of foreign income for many developing countries. Remittance serves as good sources of saving and assets accumulation and provides collateral security for loans and can be liquidated in time of crises. According to Ukeje and Ojechina (2013), workers' remittances are funds transferred by migrants living and working aboard to home economies of the migrants. Workers' remittances include household to household transfers in cash and in kind, compensation paid and migrant capital transfer in form of financial assets According to Benmamoun and Lehnet (2013), workers' remittances are often motivated by the desire of the migrant to support their families, friends and invest in their home country.

Remittances are a major source of external cash flows and represent an important determinant of the exchange rate. In South Africa, migrant remittance flow has become the leading source of foreign capital inflows (Benmamoun and Lehnet, 2013). Migrant remittance inflow has enjoyed higher average growth during the past decade.

It has become paramount that low savings in the continent have created serious resource gap and hence, necessitate the need for foreign finance to compliment the domestic savings. In view of this therefore, the organizations like World-bank , International monetary fund (IMF), the United Nation(UN), international development association(IDA), and other Development Economists etc, have seen large scale foreign aids as not been enough in solving the problem of under–development in south Africa and more so, the fact that foreign direct investment and official development assistance are not reliable in term of their flows and also for the fact that the conditions normally attached to these funds made it unattractive to kick start any meaningful development process. It has even been argued in literature that most of these foreign finances especially foreign aids represented by Official Development Assistance(ODA) were returned back to donor countries in term of using the funds to pay for foreign consultancies, since that would be part of the conditions for the aids in the first instance. This assertion therefore, have necessitated the need for paradigm shift, as more development economists have look in direction of migrant remittance as a veritable avenue for the mobilization of foreign capital as a means of kick- starting any meaningful development process.

International remittance has added value to the foreign exchange earnings in terms of increasing the recipient's household income (Ahmed, 2012). Some remittances typically flow to individuals through informal channels and governments cannot benefit directly since there are generated privately through unrecorded channels. Migrant remittances improve the wellbeing of family members and boost the economics of receiving countries. They can also create a culture of dependency in the receiving country, promoting consumption and slowing economic growth (Meyer and Shera, 2017).

Remittances are part of income of migrant workers who come back to the country of origin from the country of employment. It is the value of monetary transfers that is sent from the workers residing abroad for more than a year to the home country. Migrant workers remit through two types of channels which are formal and informal channels. Formal channels include: remittance services offered by banks, money transfer operators (MTOS), in-cash transfer via informal intermediaries, ATM cash withdrawal abroad, post office, forex bureau, such as western union and moneygram to maximize the inflow of remittances. On the other hand, informal channels are the ones carried out through every other channels outside of the formal ones such as agent that carries the money physically. Before the money transfer operators stepped into the scene, migrant workers rely on informal channels such as travelers that will send money back to their loved ones. Migrant will prepare small packet of cash and attach letters detailing for who and for what the money is meant for. Then, he or she will find a traveler or remittance carrier, it could be a friend or a neighbor or an informal agent. Migration is a routine part of the livelihood strategies of the rural poor across a wide range of developing country contexts. For many developing countries, remittances (defined as the portions of cross-border earnings that migrants send home) from overseas migrants exceed development aid and foreign direct investment volumes. Moreover, remittances from migrant relatives, either internal or international, are often the main component of rural households' incomes.

Unlike aid, remittances flow directly to individual households and unlike loans they incur no debt. Besides contributing to household livelihoods, remittances can foster longer-term

development through investment in education, land and small businesses. In some places, migrants' associations channel part of the remittance inflows into community development projects, such as schools, health centres and wells. Remittances are personal transfers made by workers and it constitutes an important avenue for savings, investment and human capital development in order to enhance effective performance, which is transformed to economic growth. Remittance can also play a functional role in the financial sector because these funds can be converted and deposited with banks for lending to the private sector which may lead to capital formation and invariably affect economic growth.

Remittances reflect the local labour working in the global economy and have been shown to explain partly the connection between growth and integration with the world economy. Remittances enhance the integration of countries into the global economy and reflect the local labour working in the globalized economy. Remittance has become an important source of revenue both for government through tax and fees and for households. At households' levels, it helps increase income and consumption smoothing; increase saving and asset accumulation and improve access to health services and better nutrition and to better education. Likewise, at village/community level, remittance income can help stimulate local commodity markets and local employment opportunities. Remittances have proved to be less volatile, less procyclical, and therefore a more reliable source of income (for agricultural production and other household uses) than other capital flows to developing countries (World Bank, 2017).

On the significance of remittances, it was believed by many scholars for a long time that remittances form an insubstantial part of village income. However, recent evidence suggests otherwise and it has grown in importance as a component of households' income. Remittance has been described by many as the newest "development mantra" because of its surge. Remittances serves as insurance policies against risks associated with new production activities and reduced income inequality. In the low income households, it smoothens consumption by reducing adverse shocks (Azam, 2015), as well as increasing the propensity to save (Adams & Page, 2005). It helps in the aspect of building schools and clinics as a way of improving the economy. Also, remittances have positive effect on balance of payments which translated the level of economy in terms of growth (World Bank, 2018).

H**o**wever, it should be noted that developing countries (Nigeria and South Africa) remittance market is still at infancy and faces series of problems typical of emerging markets. The problems include uncertainty about the amount of remittance, absence or little competition in the remittance market, huge cost of remitting funds and limited technological innovations (World Bank, 2009)

Remittances are supposed to provide a country's economy with foreign currency, help finance imports, improve the balance of payments in its international accounts, and increase national income. Over the years, the bulk of remittances inflow has not been translated into economic growth. It is observed that when migrant sends money to his home country for purposes, most of these funds are not properly utilized

Also, some of the funds that are sent by migrants are mismanaged, misplaced, misappropriated which have resulted in reduction of investment, capital flight, exchange rate appreciation and income inequality. Despite of all these challenges, government policies have been made to remedy this situation but it remains status quo. Therefore, this study is carried out to investigate the effect of migrant remittance on the two economies. The specific objectives were:

1. To examine the effect of migrant remittance on economic growth in Nigeria.
2. To examine the effect of migrant remittance on economic growth in South Africa.

Theoretical framework

This study was anchored on pure altruism theory

This theory was propounded by Hagen-Zanker and Siegel in 2007. The theory states that a person must sacrifice for another without consideration of personal gain. They postulated that migrants remit money back home in concern for the welfare of the family members. The theory posit that remittances are compensatory transfers sent home when the migrant's home country is faced with economic disruptions. The compensatory nature of remittances under the Pure Altruism theory implies that remittances are countercyclical, that is, they increase during times when there is deterioration in economic conditions in business cycle (Ahmed, 2012). Altruistic remittances can be countercyclical to GDP patterns possibly because migrants tend to remit more during periods of economic disturbances in order for their families in the home country to smoothen their consumption (Ahmed, 2012).

This theory assumes that behavior is normally described as altruistic when it is motivated by a desire to benefit someone other than oneself for that person's sake. People may engage in altruistic acts that can place them in danger. It may sometimes lead people to neglect their own health, social or financial needs in order to care for others. The pure altruism theory opined that remitters send money to their families due to the emotional ties. The money sent increases the income and purchasing power of their family members thereby resulting in the growth of the economy. Altruism has been used to explain the motivating factor of remittances for past decades by different scholars (Adams, 2002).

Remittances are transferred out of affection and responsibility towards the household, the neighbourhood or the country. The main reason why people migrate to other countries has been mentioned in the literature due to deficiency in homeland (Ahmed, 2012). According to the altruistic model, sending remittance produces delight for migrants due to the fact that it represents an aid for the social well-being of the family, the community or the homeland. This idea believes that the migrant feels obligated to transfer remittances from his destination to his home because of his attachment and love for his family. It is possible that this is due to the reality that the migrant started his journey from the prevalence of poverty in his country and, therefore, tries to alleviate poverty by supporting family consumption and expenditure. Remittances are said to increase over time if reason is purely altruistic. According to the altruistic perspectives, remittance inflows would mean that economic production will increase in the receiving destination.

Literature review

Workers remittances are funds sent by migrants working outside the country to his home economies. Remittance serves good source of increasing savings, alleviate poverty, increase

household income, investment and provides collateral security in time of crises. According to Ukeje and Oiechina(2013), remittances play a pivotal role on the economy through cash transfers either in cash or in kind by worker who stays abroad to his relations. The World Bank categorized remittances into three areas: First, is the transfer in cash or kind from migrants to resident households in the country of origin; second is compensation paid and third is the migrant capital transfer in form of financial assets.

In 1981, remittances with an increase of US$300 billion were transferred from developed countries to developing countries through official channels (World Bank, 2017). Remittances boost the recipient households and it has a multiplier effect on domestic goods. Ramirez (2013) connotes that remittances affect activity of the country when it interact with human capital and technology. Neo-liberal functionalist school view remittances as playing a crucial impact in promoting personal family and the society at large. Remittances are factors that create inequality in household with low gross domestic product (GDP). They are expended for consumption instead of investment as it is meant for economic growth. Remittances are seen as a way of improving the economy.

Ukeje and Oiechina (2013) concluded that way of transferring remittances are: socio-economic, differential interest rate, and exchange rates in receiving and sending countries. The process of this activity is obtainable in both countries when there is an efficient banking system where money is sent to the recipients' countries. International remittance inflows have experienced a significant increase in developing countries over the past decades. For many developing countries, such remittances constitute the largest source of foreign exchange earnings, even exceeding export revenues, FDI, aid, or other private capital flows. Remittances become, therefore, a relatively attractive source of foreign earning for developing countries. However, little attention has been paid to analyze economic impact of these financial transfers, especially on economic growth and poverty. While remittance inflows are relatively stable and could positively affect economic growth and reduce poverty, the rapid increase in such inflows could generate the adverse effects to the overall economy, retarding the economic growth, i.e. the 'Dutch Disease' problem. Empirical evidence of previous studies of the impact of workers' remittances on economic growth as well as poverty reduction is mixed.

Comparison of Nigeria and South Africa

Nigeria and South Africa have led most conflict-management initiatives in Africa in recent years, and both account for at least 60 percent of the economy of their respective sub-regions in West and Southern Africa. (Meyer and Shera, 2017). The success of the political and economic integration in Africa thus rests heavily on the shoulders of these two regional Gulliver, who have both collaborated and competed in Africa's most indispensable relationships. It is noted at the outset that the citizens of both countries have strong views about each other on some of the areas of dispute, competition and cooperation. Nigerians often complain about the ingratitude of South Africans not acknowledging the role they played in the anti-apartheid struggle, For their part, South Africans complain about Nigerian involvement in drug trafficking and fraudulent scams, while its companies complain about bureaucratic obstacles and lack of infrastructure that makes doing business in Nigeria so difficult.

It is observed that the citizens of both countries share attributes with Americans. "Like Americans, Nigerians have the reputation for being loud, brash, and arrogant while South Africans are an information-rich society, like America, which is staggeringly ignorant about its own region." (Meyer and Shera, 2017). Discussing other similarities and differences, Nigeria is one of the most ethnically and indigenously diverse countries on the continent, and South Africa as the most racially diverse and most Westernized. Culturally, South African black majority struggles to emerge from the legacy of Bantu education, while Nigeria has the largest black intelligentsia of anywhere in the world. On higher education, South Africa has several well-funded quality universities, Nigeria's ivory towers are crumbling monuments to years of neglect and government closures (Oke, 2008).

Drawing a contrast between the two countries' attitudes about human rights, South African liberal constitution has entrenched gay rights, Nigeria in 2014 criminalized homosexuality with 14-year jail terms. The two countries' positioning as continental powers. While Nigeria's legitimacy as an African power is unchallenged, South Africa's black government continues to struggle with its legitimacy as an African leader because of the continued dominance of the ten percent white minority of the economy. The choice of selection of this study is based on the following; Nigeria is one of the countries in West Africa with the highest population while South Africa has the highest GDP.

Exchange rate in remittances

Remittances can potentially affect the real exchange rate through three main channels. First, remittances may affect the external equilibrium of the economy by raising the net foreign asset position of the country. The rate of sustainable capital flows will be a function of the stock of foreign assets and liabilities of the economy, so that changes to the net foreign asset position of the country will lead to changes in the real equilibrium exchange rate. Given that international remittances are transfers of foreign currency that unlike other types of international flows have no obligation associated, remittances will have a direct impact on the net financial position of the country vis a vis the rest of the world. Note in this regard that the impact of remittances on the stock of net foreign assets differs from the impact of other flows such as loans or foreign direct investment flows. In the case of a loan, there is an associated liability (the repayment) and therefore the contribution to the net foreign asset position of the country is given by the difference between the proceeds and the net present value of the repayment obligations.

In this regard, loans will positively affect net foreign assets to the extent that they have a positive grant component. On the other hand, foreign direct investment flows coming into the home country will increase the foreign liabilities and therefore, will lead to a decline of the net foreign asset position. Second, remittances can also affect the internal equilibrium of the economy understood as the situation where domestic capital and labor are efficiently utilized. If as discussed above, remittances lead to an acceleration in the demand for services, inflation will tend to be higher in these sectors which typically are not tradable (and hence somewhat protected from competition) leading to a real exchange rate appreciation. Similarly, market rigidities may result in productivity differentials between sectors. For example, if remittances raise the reservation wage, then excessive wage pressures in the tradable sector may lead to employment adjustments to maintain competitiveness, whereas in the non-tradable sector

employers may admit these pressures because they can pass them onto prices. As a result, remittances can also lead to higher productivity growth and lower inflation in the tradable sector through their potential impact on the reservation wage. One implication of this discussion is that whether remittances are primarily used for household consumption or investment purposes will have a direct impact on the way they affect the real exchange rate, with remittances that are predominantly consumption oriented having more of an appreciating impact on the real exchange rate.

A third possibility for remittances to affect the real exchange rate is through their impact on growth, although in this case the impact on the exchange rate is likely to be uncertain. On the one hand, an acceleration in the growth rate would lower the stock of net foreign assets as a percentage of GDP and hence this would lower the real exchange rate (i.e. growth would have the same impact as an increase in the liabilities of the country). If on the other hand, the net foreign asset position of the country is negative vis a vis the rest of the world, the increase in the rate of growth would lower the liabilities to GDP ratio and hence lead to an appreciation.

Empirical review

Many empirical works are investigated on migrant remittance in developed and developing economies. Glytson (2005) conducted a study on macroeconomic determinants of remittance on economic growth for Egypt, Jordan, Greece, Morocco and Portugal for the period 1969 to 1998.The study adopted secondary source of data using OLS analysis. It was shown that workers remittance affects economic development. Natalia (2006) examined remittances, institutions and economic growth in Jordan from 1970-2003. The study employed panel data, the study showed remittances have weak impact on the economy.

Ang (2007) examined on impact of workers' remittance on economic growth of West African countries. The study adopted panel data analysis. Based on the findings, the study revealed that there was a positive impact of workers' remittance on growth at macro level and no evidence did not exist at micro level. The study recommended that International remittance inflow is one of the major macroeconomic factors that significantly promote economic growth in a developing economy like Nigeria. Therefore, remittance receiving countries need to provide a friendly economic environment through sound macro-economic policies, including stable exchange rates.

Fayissa and Nsiah (2008) investigated the impact of remittance on economic growth and development in Africa. The research adopted secondary data and the use of co-integration and ordinary least squared method of analysis. The findings show that remittances had a positive significant impact on gross domestic product (GDP). The study therefore concluded that workers' remittances play an important position and FDI was used as a source of capital in Africa. Malik and Januid (2009) analysed effects of remittance inflows on economic growth in developing countries. The research study adopted panel data. The findings showed that remittances had positive influence on consumption and that it positively influenced growth. The study recommended that government should improve relation with foreign countries so as to reduce barriers of migration and more citizens can work abroad and send remittances back home.

Makhlouf and Naamane (2013) examined remittance behavior of the second generation in Europe. They applied VAR and other estimation procedures and found that worker's remittance had a positively affected GDPPC through financial development. The study recommended that tax rate for transactions should be decreased so people will send money through appropriate channels which will give an account of actual data on remittances which can help policy makers make better policies as regards remittance inflows. Barguellil and Zaiem (2013) investigated macroeconomic effect of remittances on the Nigerian economy. Co-integration and ordinary least squared method of analysis were used. The co-integration revealed on long run relationship among the indicators and ordinary least square estimate showed that independent variable was negative on the performance of dependent variable. The inclusion of education in the regression estimate changed the existence of remittance positively. It is suggested that its impact could be better felt on economic growth through human capital development.

Ezra and Nwosu (2016) studied on remittances and financial development in economic growth. The study made use of two –stage Least Squares Instrumental Variable (2SLSIV). It was discovered that remittances have a positive impact on economic growth. Hernandez-Coss and Bun (2018) examined workers' remittances, institutions and economic growth in Asia using panel data. The result demonstrated that remittances significantly impacted on growth. It has a significant impact on growth through domestic investment. Ziesemer (2019) examined financial development, remittances and economic growth. He used pooled data for four remittances. The study revealed that countries that gain from remittances have their expected income below $1,200 and remittances contribute 2 percent to GDP while the growth of remittance on better countries are smaller. Bouhga-Hagba (2006) investigated impact of migrant remittances and exchange rate on agricultural growth. The results indicated that remittances do not affect agricultural GDP and exchange rates. Results demonstrated that policies of exchange rate do affect remittances. Also when there is a change in agricultural GDP, remittance will go same way. In a shortly basis, exchange will positively affect remittances.

Chami, Fullenkamp and Jahjah (2005) investigated immigrant remittances flows a source of capital for development. They used panel data to estimate workers' remittances to GDP ratio. Remittance appeared to be negative with growth. Also noted that remittance lead to hazard problem, when the home family reduces the capacity to work and also depending on remittance. Chukwuma (2009), investigated determinants of workers remittance in North Africa and Europe. The study appeared with not having a strong link on the economy. There was a significant leakages for remittance through imports. He recommended that there is weak relationship with remittance, therefore government policies could strengthen to enhance growth. Oke (2008) conducted Remittance and Economic growth in smaller countries. It was revealed that Nigerian migrants always remit home. The research proved that they migrate by themselves in period of difficulty in order have better life.

Ojapinwa and Odekande (2013) investigated workers' remittance, financial development and growth in Nigeria. Using time series data for the period 1977-2010. ADF and Philip-Perron and Ordinary Least Squares approach were used. They found out that remittances boost stock of physical investment in Nigeria. The findings suggests that financial sector should be fine-

tuned to complement remittances capability. Brown (2010) investigated economic growth and remittances of 64 Asian countries. Panel unit root and panel co-integration tests were used in the study. The outcome showed remittances and economic growth were positively related. Ramirez (2013) studied the effect of remittances on the economic growth in Latin America. Panel data analysis was employed and it was discovered that remittances affected GDP growth.

Research methodology

The exploratory design is adopted in order to explore what other writers have done in this field. The ex-post facto research design will equally adjudge appropriate as the event under study had already taken place. Secondary data was extracted using Central Bank statistical Bulletin and world Development Index (WDI). In line with the main focus of this study, only the secondary source was used. Data collection involved an examination of already existing data extracted from international financial statistics. This study employed the autoregressive distributed lag (ARDL) bounds test approach to estimate the above relationship.

The model for this study is modified and adapted as follows:

$GDPGR = bo + b_1REM + b_2EXCR + e$

The objective of this study is to establish the effect of international migrant remittance on the level of economic growth in Nigeria and South Africa. Based on this, the model below has been developed for the study.

$GDPGR = bo + b_1REM + b_2EXCR + e$ ----------(1)

Where;

GDPGR = Gross domestic product growth rate
REM = Remittance
EXCR = Exchange rate (control variable)

Therefore, the functional relationship is linearized into ordinary least square (OLS) model.

$logGDPGR = bo + b_1logREM + b_2log\ EXCR + e$

Regression constant = b_0
Regression Coefficient = $b_1 – b_2$
Stochastic error term = e

Analysis of data

For Nigeria

ARDL short run dynamics

The ARDL short-run test showed that the value of the intercept which is 1.145 revealed that GDP growth rate (GDPGRNG) in Nigeria will increase by a 1.14 percent when all other variables (REMNG and EXCRNG) were held constant and were found to be statistically significant at five percent significance level. The analysis further revealed that the R^2 (R-squared) which measures the overall goodness of the fit of the entire ARDL model has a poor fit. This is represented with the R^2 value of 0.4232 (42.32 percent). This indicates that the independent variables REMNG and EXCRNG) accounted for about 42.32 percent variation in the independent variable (GDPGRNG). Also, the adjusted-R^2 is at 0.2523 or 25 percent measures the effect of the addition of irrelevant variables to the ARDL model and the effect on the prediction of the relationship of the variables. It is smarter than the R^2 as it does allow room for stochastic variables.

In the same vein, the value of F-statistic (2.476) showed that the overall ARDL mode is statistically significant. The overall significance of the ARDL short-run model implies the joint significance of all explanatory variables (REMNG and EXCRNG) in explaining the short run charges in GDP growth rate (GDPGRNG) in Nigeria. Further examination of the ARDL short-run estimates revealed that changes in the current period of REMNG had a non-significant negative effect on GDP growth rate. Further examination of the ARDL short-run estimates revealed that changes in the current period, the previous lagged period, previous two lagged periods, the previous three lagged periods and the four lagged period of exchange rate had a non-significant negative effect on GD growth rate in Nigeria in the short run. The implication is that, a percentage increase in exchange rate will lead to a corresponding increase in GDP growth rate in Nigeria in the short run.

On the other hand, the ARDL short run test also revealed that the value of intercept which is 0.0043 revealed that human capital index in Nigeria will decrease by a 0.004 percent when all other variables (REMNG and EXCRNG) are held constant and was found to be statistically non-significance level. The analysis revealed that the R^2 which measures the overall goodness of the fit of the entire ARDL model has a very high good fit. This is represented with R^2 value of 0.9952. Also, the adjusted-R^2 is 0.9948 which measures the effect of the addition of irrelevant variables to the ARDL model and the effect on the prediction of the relationship of the variables. In the same vein, the value of F-statistics (2461.6) showed that the overall ARDL model is statistically significant.

The overall significance of the ARDL short run model implies the joint significance of all explanatory variables (REMNG and EXCRNG) in explaining the short-run changes in GDP in Nigeria. Further examination of the ARDL short-run estimates revealed that changes in the current period of remittance had a non-significant negative effect in Nigeria in the short run. The implication is that, a percentage increase/decrease in remittance will lead to a corresponding increase/decrease in HCI in Nigeria in the short run. Further examination of the ARDL short run estimates revealed that changes in the current period of exchange rate had a non-significant negative effect on GDP growth rate in Nigeria in the short run. The implication is that, a percentage increase in exchange rate will lead to a corresponding increase in GDP growth rate in Nigeria in the short run.

TABLE 1
Short run

Variable	Coefficient	Std. error	t-Statistic	Prob.*
GDPGRNG(-1)	0.486957	0.184278	2.642507	0.0135
LREMNG	-1.511411	1.028083	-1.470125	0.1531
LREMNG(-1)	1.303966	0.929269	1.403217	0.1719
LEXCRNG	-3.480440	2.203827	-1.579271	0.1259
LEXCRNG(-1)	6.015362	2.948453	2.040176	0.0512
LEXCRNG(-2)	-4.342032	3.018082	-1.438672	0.1617
LEXCRNG(-3)	6.997176	2.941231	2.378996	0.0247
LEXCRNG(-4)	-4.912029	2.542628	-1.931871	0.0639
C	1.145271	4.950627	0.231339	0.8188

R-squared	0.423250	Mean dependent var	4.250556
Adjusted R-squared	0.252361	S.D. dependent var	3.915017
S.E. of regression	3.385162	Akaike info criterion	5.488999
Sum squared resid	309.4017	Schwarz criterion	5.884878
Log likelihood	-89.80198	Hannan-Quinn criter.	5.627171
F-statistic	2.476757	Durbin-Watson stat	1.932286
Prob(F-statistic)	0.037139		

*Note: p-values and any subsequent tests do not account for model selection.

ARDL co-integrating and long run form

With reference to the unit root test order of integrations '1(0) and 1(1)', this study proved that there is a possibility of a long run co-integration between/among the variable of the same unique order of integrations. Based on the ARDL test result, it is concluded that there is a long run relationship among the variables in the model. From the result, there is a need to estimate the long run coefficients. The long run coefficient measures the long run effect of the independent variables on the dependent variable. From the ARDL and long run form, long run estimates showed that the independent variables (REM and EXCR) have a joint significant positive effect on GDPgrowth rate in Nigeria in the long run.

This means that an increase in these variables will have a significant positive effect with changes in the GDPgrowth rate in Nigeria in the long run. All things being equal, GDPgrowth rate in Nigeria will increase by 2.23 percent as a result of the interaction within the economy in the long run, ceteris paribus. The ARDL long run estimates revealed that, all things being equal, a percentage increase in Remittance (REMNG) will lead to an increase in GDPgrowth rate in Nigeria by 0.40 percent but was found to be statistically non-significant at five percent in the long run. The ARDL long run estimates revealed that, all things being equal, a percentage increase in exchange rate will lead to an increase in GDPgrowth rate by 0.54 percent but was found to be statistically non-significant at five percent in the long run.

From the ARDL and long run form, long run estimates showed that the independent variables (REMNG and EXCRNG) have a joint significant negative effect on human capital in Nigeria in the long run. This means that an increase in these variables (REMNG and EXCRNG) will have a significant negative effect with changes in GDP growth rate in Nigeria in the long run, ceteris paribus. The ARDL long run estimates revealed that all things being equal, a percentage increase in remittance will lead to an increase in human capital development in Nigeria by 0.043 percent but was found to be statistically non-significant at five percent in the long run. On the other hand, the ARDL long run estimates revealed that, all things being equal, a percentage increase in exchange rate will lead to a decrease in GDP growth rate in Nigeria by 0.06 percent and was found to be statistically non-significant at five percent in the long run.

TABLE 2
Long run

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1.145271	4.950627	0.231339	0.8188
GDPGRNG(-1)*	-0.513043	0.184278	-2.784062	0.0097
LREMNG(-1)	-0.207444	0.943269	-0.219921	0.8276
LEXCRNG(-1)	0.278037	1.536013	0.181012	0.8577
D(LREMNG)	-1.511411	1.028083	-1.470125	0.1531
D(LEXCRNG)	-3.480440	2.203827	-1.579271	0.1259
D(LEXCRNG(-1))	2.256885	2.637207	0.855786	0.3996
D(LEXCRNG(-2))	-2.085147	2.352274	-0.886439	0.3832
D(LEXCRNG(-3))	4.912029	2.542628	1.931871	0.0639
LREMNG	-0.404341	1.789218	-0.225988	0.8229
LEXCRNG	0.541938	2.923409	0.185379	0.8543
C	2.232311	9.856692	0.226477	0.8225
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	2.311132	10%	2.63	3.35
K	2	5%	3.1	3.87
		2.5%	3.55	4.38
		1%	4.13	5
Actual Sample Size	36		Finite sample: n=40	
		10%	2.835	3.585
		5%	3.435	4.26
		1%	4.77	5.855
			Finite Sample: n=35	
		10%	2.845	3.623
		5%	3.478	4.335
		1%	4.948	6.028

EC = GDPGRNG - (-0.4043*LREMNG + 0.5419*LEXCRNG + 2.2323)
* p-value incompatible with t-Bounds distribution.

For South Africa

ARDL short run dynamics

In South Africa, the ARDL short-run test revealed that the value of the intercept which is 1.884 revealed that GDP growth in South Africa will increase by 1.88 percent when all other variables (REMSA and EXCRSA) were held constant and were found to be statistically significant at five percent significance level (Table 5b). The R^2 measures the overall goodness of the fit of the entire ARDL model has a poor fit. This is represented with the R^2 value of 0.2879. This shows that the independent variables accounted for about 28.79 percent variation in the independent variable. Also, the adjusted-R^2 is at 0.1766 or 18 percent measures the effect of the addition of irrelevant variables to the ARDL model and the effect on the prediction of the relationship of the variables. It is smarter than the R^2 as it does allow room for stochastic variables. The R^2 does allow room for stochastic variable. The value of F-statistic (2.587)

showed that the overall ARDL mode is statistically significant. The overall significance of the ARDL short-run model implies the joint significance of all explanatory variables in explaining the short run charges in GDPgrowth rate in South
Africa.

Furthermore, the ARDL short-run estimates revealed that changes in the current period of remittance had a non-significant negative effect on GDPgrowth rate. Also, the ARDL short-run estimates revealed that changes in the current period, the previous lagged period, previous two lagged periods of exchange rate had a non-significant negative effect on GDP growth rate in South Africa in the short run. The implication is that, a percentage increase in exchange rate will lead to a corresponding increase in GDP growth rate in South Africa in the short run.

The ARDL short run test showed that the value of intercept which is 0.041 revealed that GDP growth rate in South Africa will reduce by a 0.041 percent when all other variables are held constant and was found to be statistically non-significance level. The R^2 measures the overall goodness of the fit of the entire ARDL model has a very high good fit. The R^2 value of 0.9762 or 98 percent was very good. It shows that the independent variables are accounted for about 98 percent variation in GDP growth rate. The adjusted-R^2 is 0.9742 measures the effect of the addition of irrelevant variables to the ARDL model as well as the prediction of the relationship of the variables. The F-statistics (479.822) showed that the overall ARDL model is significant. The overall significance implies the joint significance of all explanatory variables in explaining the short-run changes in GDP growth rate in South Africa. The ARDL short-run estimates showed that changes in the current period of remittance had a non-significant positive effect on GDP growth rate in South Africa.

The implication is that, a percentage increase/decrease in remittance will lead to a corresponding increase/decrease in GDP growth rate in South Africa in the short run. The ARDL short run estimates revealed that changes in the current period of exchange rate had a non-significant negative effect on human capital index in South Africa in the short run. The implication is that, a percentage increase in exchange rate will lead to a corresponding increase in GDP growth rate in South Africa in the short run. Explanatory variables will have a significant negative effect with changes in GDP growth rate in South Africa in the long run (ceteris paribus).

The ARDL long run estimates revealed that all things being equal, a percentage increase in remittance will lead to a decrease in GDP growth rate by 0.045 percent but was found to be statistically non-significant at five percent in the long run. The ARDL long run estimates revealed that a percentage increase in exchange rate will lead to a decrease in GDP growth rate in South Africa by 0.05 percent and was found to be statistically non-significant at five percent in the long run.

TABLE 3
Short run

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
GDPGRSA(-1)	0.494953	0.188528	2.625360	0.0132
LREMSA	-0.167857	0.785960	-0.213569	0.8322
LEXCRSA	-2.175431	3.170410	-0.686167	0.4975
LEXCRSA(-1)	-4.578677	4.786712	-0.956539	0.3460
LEXCRSA(-2)	6.373030	3.159307	2.017224	0.0521
C	1.884278	2.953484	0.637985	0.5280
R-squared	0.287934	Mean dependent var		1.852395
Adjusted R-squared	0.176673	S.D. dependent var		2.556073
S.E. of regression	2.319313	Akaike info criterion		4.664358
Sum squared resid	172.1348	Schwarz criterion		4.922925
Log likelihood	-82.62281	Hannan-Quinn criter.		4.756354
F-statistic	2.587926	Durbin-Watson stat		1.722198
Prob(F-statistic)	0.044817			

*Note: p-values and any subsequent tests do not account for model selection.

TABLE 4
Long run

Variable	Coefficient	Std. error	t-statistic	Prob.
C	1.884278	2.953484	0.637985	0.5280
GDPGRSA(-1)*	-0.505047	0.188528	-2.678899	0.0116
LREMSA**	-0.167857	0.785960	-0.213569	0.8322
LEXCRSA(-1)	-0.381079	1.224271	-0.311270	0.7576
D(LEXCRSA)	-2.175431	3.170410	-0.686167	0.4975
D(LEXCRSA(-1))	-6.373030	3.159307	-2.017224	0.0521
Variable	Coefficient	Std. error	t-statistic	Prob.
LREMSA	-0.332359	1.570180	-0.211669	0.8337
LEXCRSA	-0.754541	2.454907	-0.307360	0.7606
C	3.730897	5.860799	0.636585	0.5289

* p-value incompatible with t-Bounds distribution.
** Variable interpreted as Z = Z(-1) + D(Z).
EC = GDPGRSA - (-0.3324*LREMSA -0.7545*LEXCRSA + 3.7309)

Summary of findings

The study examined international migrant remittances and economic growth in Nigeria and South Africa. Several empirical tests were carried out in order to achieve the objectives of the study. From the results of these analyses, the following findings are revealed thus;

1. The ARDL revealed that remittances and economic growth in Nigeria was found to be positive and non-significant.
2. The ARDL revealed that remittances and economic growth in South Africa was found to be positive and non-significant.

Conclusion

The study portrayed international migrant remittances and economic growth in Nigeria and South Africa. The study revealed that remittances and economic growth was positive and non-

significant in Nigeria, remittances and economic growth was positive and non-significant in South Africa. Workers remittances are funds sent by migrants working outside the country to his home economies. Remittance serves good source of increasing savings, alleviate poverty, increase household income, investment and provides collateral security in time of crises. Remittances play a pivotal role on the economy through cash transfers either in cash or in kind by worker who stays abroad to his relations. Remittances boost the recipient households and it has a multiplier effect on domestic goods. Remittances are very important in the area of spending in families. It involves macroeconomic management, labor force participation, education and health outcomes, and household expenditure. International remittance has grown rapidly in the past few years and now represents one of the major sources of foreign income for many developing countries.

Recommendations

In line with the findings, the following recommendations were proffered

1. Government should improve relation with foreign countries so as to reduce barriers of migration and more citizens can work abroad and send remittances back home
2. International remittance inflow is one of the major macroeconomic factors that significantly promote economic growth in a developing economy. Therefore, remittance receiving countries need to provide a friendly economic environment through sound macro-economic policies.
3. Government should improve relation with foreign countries so as to reduce barriers of migration and more citizens can work abroad and send remittances back home. It is suggested that its impact could be better felt on economic growth through human capital development.
4. Governments and policymakers should put more emphasis on migration policies, and require amendment for the proper implication of these policies and the productive use of remittances to secure economic growth.
5. Remittance can only be more meaningful and contribute to economic growth of Nigeria, only if financial institutions are well organized and be made more competitive to provide remittance services at reduced cost, so that funds can be remitted through official channels.

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