Migrant remittance and quality of life in Nigeria

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Abstract

Nigeria has persistently faced challenges such as high unemployment rates, a steep cost of living, and inadequate infrastructure, leading to a significant portion of its workforce migrating to supposedly more prosperous economies to support their families back home. It is on this grounds that this paper investigates the effect of diaspora transfers on the quality of life in Nigeria from 1986 to 2022. The research depends on secondary data obtained from World Bank development indicators and employs both descriptive statistics and econometric techniques, including Auto-Regressive Distributed Lags (ARDL). The results of the study connote that diaspora remittances negatively affect household consumption expenditure and access to education in Nigeria. However, while the effect on household consumption expenditure and access to education is statistically significant, the effect on access to health is not statistically significant at the 5% threshold. Consequently, the study recommends that the government partner with financial institutions and international organizations to enhance transparency, reduce transaction costs, facilitate access to formal channels, and promote financial literacy among recipients of remittances.

Keywords: Diaspora Remittance, Quality of Life, Access to Health, Access to Education and Literacy Rate

JEL Classification Codes: C01, C32, F24, O15, R13, R21

1. Introduction

Nigeria, as a nation, has struggled with household welfare and improving living standards. Despite significant economic advancement in recent decades, the country continues to grapple with several obstacles to progress, including insufficient infrastructure, food insecurity, poverty, and income inequality (Dimnwobi, Ekesiobi, Madichie & Asongu, 2021). According to the United Nations Development Programme (2017), the countries of tropical Africa has experienced poor human capital development and welfare outcomes as compared to other parts of the world, according to reports by World Health Organization (2019). Nigeria, exhibited dismal welfare outcomes, with fluctuating poverty rates over the years. According to the data collected by National Bureau of Statistics (2018) indicate that Nigeria's poverty rate was 28.1% in 1980, the rate drops down to 5% in 1960. By 1985, it had risen to 46.3%, but decreased to 42.7% by 1992. However, the rate of poverty increased to 65.6% in 1996, when the total population was approximately 102.3 million. It then fell to 54.4% in 2004 before rising once more to 70% in 2018.

Alternative pointer of the country's poor well-being outcomes is the substantial percentage of the population lacking access to basic necessities like food, shelter, education, and healthcare services (Orji, Ogbuabor, Nwosu, Anthony-Orji & Amoji, 2020). The country's institutions, such as the education and healthcare systems, have imposed a considerable burden on people's quality of life. These sectors have historically received limited attention due to resource constraints. For instance, a large proportion of children lack access to immunization, leading to various health issues. Furthermore, many kids who should be in school are not. This is because of various factors including; gender related issues, high cost of education, socio-cultural beliefs, among others factors. Additionally, a majority of parents have limited formal education, resulting in a lack of emphasis on providing their children with basic education, which ultimately impacts the nation's future prospects (Adebayo Salman, Omotayo, & Oluseyi, 2021; Orji et al., 2020).

Various factors can affect the quality of life in a developing economy, and one among the factors is migrant remittance; this are earnings set side by foreigners to assist their lovers one's in their mother country or nation (Adebayo et al., 2021). Remittances have the potential to enhance household welfare by increasing levels of household consumption and investment. Households receiving remittances can allocate these resources to obtain quality healthcare, food, clothing, and shelter, thereby enhancing their living standards. Furthermore, remittances might facilitate consumer sovereignty by enhancing domestic market competitiveness and expanding the availability of a varied range of products and services.

The works examining the factors influencing remittances highlights the innate sympathy and concern migrants feel for the welfare of their families and close associates left behind. This often

translates into sending money back home to elevate the living standards of their families and contribute to stabilizing consumption (Adenutsi & Ahortor, 2021). Nigeria stands out as one of the highest number of migrants located in Europe, North America and neigbouring African countries. This has place Nigeria on leading chat of diaspora remittance in Africa (Fidelis, 2017; Cooper & Esser, 2019). The socio-economic challenges prevailing in Nigeria, exacerbated by factors such as inadequate infrastructure, insecurity, persistent unemployment, and inflation, have prompted a significant exodus of highly skilled and educated Nigerians to other countries (Bailey, 2022).

Remittances are primarily received by Nigerian households; migrants send this money home to assist their families (Didia & Tahir, 2022). Since the mid-2000s, remittances have become one of Nigeria's main sources of outward monetary inflows. Remittance inflows increased significantly from US$1 billion in 2003 to US$18 billion in 2007 and US$19 billion in 2008, according to World Bank data (2020). This significant growth in international transfers during that period was attributed to banking sector reforms that boosted confidence in formal remittance channels, along with advancements in the ICT sector facilitating faster and easier international transactions. Remittance inflows continued to rise, reaching $24 billion in 2018, before declining to US$17 billion in 2020 due to the pandemic's which had adverse effect employees' wages and decline employment opportunities World Bank (2020). Despite the significant influx of remittances, it remains unclear whether Nigerians' overall well-being has markedly improved, a subject that continues to be fiercely debated among scholars, thus underscoring the importance of this study.

2. Literature review

2.1. Conceptual review

2.1.1. Diaspora remittance

Diaspora remittance refers to the transfer of money or resources from individuals living in foreign countries back to their nation of origin or to their relatives residing in the home country. These remittances typically represent financial support provided by citizens residing abroad to their loved one's or communities in their home country. They can play a significant role in improving the economic well-being of recipients and contributing to development initiatives in the home country.

2.1.2. Quality of life

This encompasses the general state of contentment and well-being that people or communities encounter in a variety of spheres, such as social interactions, economic prosperity, environmental conditions, physical health, mental and emotional health, and personal fulfillment. It encompasses subjective perceptions as well as objective measures of living standards, access to services, opportunities for personal development, and overall happiness and contentment. Quality of life

indicators may vary across different cultures, societies, and individuals, but they generally reflect the extent to which people feel their needs and desires are met and their ability to lead fulfilling and meaningful lives. In this paper the study considers household consumption expenditure as the proxy for quality of life.

2.2. Empirical review

investigating the effect of diaspora remittances from abroad on household education in El Salvador was the main interest of Alejandra and Manuelita (2003). This study utilized the Cox proportional hazards model to explore the factors influencing school enrollment. By assessing income derived from a source unrelated to parental schooling remittances, they discovered a substantial and statistically significant effect on school retention. This finding is noteworthy as it implies that subsidizing school attendance, especially in impoverished areas, could significantly enhance school participation, even in cases where guardians who have no western education.

In the view of Catalina Amuedo-Dorantes, Georges, and Pozo (2008) shifted focus to diasporal remittance on school enrolment among children in migrant communities in Haiti. Employing qualitative analysis techniques, they observed that remittances increased school attendance for all children in certain communities. However, in other communities, this effect was only observed among children in households without any family members who had migrated.

Pernia (2008) investigated how remittances and international migration affect a range of factors, such as household incomes, fulfillment, reducing poverty, investing in human capital, savings, and regional development in the country of origin. Through regression analysis of secondary data, the study revealed that remittances significantly augmented household incomes and savings, led to increased spending on education and healthcare, and played a crucial role in helping impoverished individuals escape poverty and contributing significantly to regional development. However, it was observed that overall increases in regional incomes did not appear to benefit lower-income households to the same extent as their higher-income counterparts.

Ajayi, Ijaiya, Ijaiya, Bello, Ijaiya, and Adeyemi (2009) deployed multiple regression analysis in other to Examine how remittances from the diaspora affect people's quality of life. among sub-Saharan African countries. The study made use of a cross-sectional data from 38 countries. Study findings reveals that, remittance partly contribute to quality of life among the selected nations. The study recommends implementing measures such as effective macroeconomic policies, a stable political environment, minimal transaction costs for money transfers, a robust banking sector infrastructure, effective measures against money laundering, improved transparency in fund transfers between senders, disbursement agents, and receivers, and strong customer protection, financial security, and risk management practices.

In a study conducted by Goschin, Popa, and Roman (2010), the aim was to evaluate the importance of certain macroeconomic and population characteristic factors associated with foreign transfer to loved one's in some European nations such as Romania, Bulgaria, Turkey, and Albania. Utilizing macroeconomic datasets from the World Bank and national statistical institutes, the researchers employed regression analysis. Their findings revealed a positive relationship amid the evolution of regional economic progress and the growth of remittance amounts transmitted through official channels as part of the total remittance volume.

Adenutsi (2010) conducted a macro-level analysis to investigate the long-term effects of remittance inflows from overseas migrants on Sub-Saharan Africa's total human development. Using a fixed-effects balanced yearly panel data estimate approach, the study covered the years 1987–2007 and concentrated on 18 Sub-Saharan African nations. Contrary to concerns from the remittance-pessimistic developmental school, the paper discovered a significant positive long-term impact of remittance inflows from international migrants on the well-being of low earners in Africa nations.

Mansour, Chaaban, and Litchfield (2011), conducted an assessment to ascertained migrant remittances on the positive and continuous increase of human capital among the youth in Jordan. They utilized a comprehensive survey was carried out with emphasis on education attainment and attendance. The empirical results demonstrated a positive influence of receiving migrant remittances on education attendance.

In Bangladesh, Syed Maruf Ahmed (2012) examined the remittance and labour migration. Using a qualitative approach, the study conducted in-depth interaction with migrant families and migrants. The findings indicated that migrant families and migrant transfer to families could have diverse impacts on families sending migrants.

Rahman (2012) focused on gender and remittance in Asia. The study selected and interviewed 150 migrants in United Arab Emirates (UAE) utilized and 100 in Bangladesh. The study revealed that gender-specific forms in remittance behavior. Interestingly, women migrants sent a larger portion of their income home compared to their men. Further, the responded prioritizing sisters over brothers and other family members over husbands. The study also reveals that, men prioritize sending their earnings to brothers over sisters and fathers over wives.

Uzochukwu and Chukwunonso (2014) examined the effects of health and education in some selected African Countries which influenced by diaspora remittance. The study collected data and analyzed with aid of two-stage-least squares (2SLS) from18 nations in the region. The results indicated that remittance have a significant positive impact on health and education outcomes in the selected countries.

Mazhar Y. Mughal (2014) conducted a study exploring the influence of migrants' remittances on the fertility transition in developing countries. The study examined a panel of imbalanced South Asian nations and took into account a number of sociodemographic and economic variables. The findings highlighted a notable association between remittances and a decrease in the percentage child bearing to women within the age range giving birth. This suggests that the substitution effect of emittances, rather than the income effect, is at play. The reduced need for children to support future household requirements, combined with improved access to healthcare and contraception in migrant households, may contribute to this trend. The study indicates that the financial aspects of international migration contribute significant role in the demographic transition of the region rather than the transmission of fertility customs from host countries of migrants.

Mintah and Nikoi (2015) looked into how remittances affected Ghana's socioeconomic development from 1992 to 2012. Data obtained was analyzed using multiple regression to examined both economic progress and poverty reduction in Ghana. The results of the analysis indicate that foreign earnings transfer home had a positive and statistically significant impact on economic growth, as evidenced by a positive correlation coefficient. However, the impact on poverty reduction in Ghana was statistically insignificant, although it had a negative correlation coefficient, suggesting an indirect effect on poverty reduction.

Singh and Hari (2015) focused on how remittances impact various aspects of the Indian economy, both in terms of broad economic factors (macroeconomic) and development goals. The analysis encompassed remittances and macroeconomic variables such as GDP, private final consumption expenditure (PFCE), government final consumption expenditure (GDFC), savings, foreign direct investment (FDI), foreign institutional investment (FII), exports, imports, and the trade balance deficit for the period 1971-2008. The study emphasized a steady and rapid rise in remittances over the past decade and half, which has strong implications on variables under study.

Tabit and Moussir (2016) examined the macroeconomic factors influencing migrants' remittances across a panel of 22 developing countries highly reliant on remittances from 1990 to 2014. The study showed that several factors influence how much money migrant workers send home (remittances). However, the remittances received by the panel under study were not significantly impacted by variables like migrant stock, the official exchange rate, or the actual interest rate in the country of origin.

Sikdera and Higgins (2016), conducted research on the social resilience of migrant households in rural Bangladesh, focusing on the role of remittances. Drawing on qualitative data from rural migrant households, the study revealed that remittances play a vital role in enhancing the social resilience of migrant households. Specifically, remittances contribute to building economic capital by facilitating access to land for agricultural production and housing construction.

Ajaero, Nzeadibe, Nkechi, & Chinedu (2017) explored the connections between household welfare, remittance and migration in Nigeria with due attention on household consumer good and durable assets. Data from sourced from World Bank Migration survey was analyzed with the aid of probit regression, OLS and descriptive statistics. The results indicated that international migrant and receiving remittances contributed immensely to household welfare in Nigeria.

Shafiq and Gillani (2018) conducted a study examining the effect of remittances on the health of children, utilizing a panel dataset spanning 132 nations between 1980 and 2015. Models such as System Generalized Method of Moments, Fixed Effects, Random Effects, and Pooled Ordinary Least Squares were used to examine the data. The findings indicate that remittances play a beneficial role in promoting child health. The study proposes that leveraging the increase in foreign earnings transfers could be a policy intervention to improve child health.

Obi, Bartolini, and D'Haese (2019) looked into how foreign remittances affected households' short- and long-term food security during food crises. Ordinary least squares (OLS) and descriptive statistics were used to gather and analyze data from the General Household Survey (Nigeria National Bureau of Statistics, 2015). In the case of Nigeria, our findings indicated that remittances are a crucial coping strategy, beneficial for addressing both short-term and long-term food security during food crises. Therefore, future research could focus on developing conceptual and empirical models to assess the spillover effects of policies aimed at promoting migrant employment in host countries.

Bibi and Ali (2021) used annual cross-sectional data from 2014 spanning 100 developing nations, including China, Afghanistan, Pakistan, Turkey, Bangladesh, Iraq, and Iraq, to look into how remittances affect human development in poor countries. The data underwent analysis using descriptive statistics and cross-sectional tools. The results indicate that, in each of the chosen developing nations, transfers and growth in humanity have a favorable but statistically insignificant link.

Bhagat and Imtiyaz (2021) investigated the effects of emigration on Muslims' health and health-seeking habits in Telangana. The data, obtained from the National Sample Survey Office (NSSO) in India, underwent analysis using binary logistic regression models. The study found that emigration plays a pivotal role in advancing households and communities, leading to an improvement in the quality of life. This role is particularly critical for marginalized and small society, who face significant constraint and selection not only in accessing the labor market but also in healthcare.

Orekoya and Tijani (2023) looked into how Nigeria's human capital development was impacted by remittance inflows from the diaspora. Using the Autoregressive Distributed Lag (ARDL) model

with data spanning from 1980 to 2021, the study found that remittance inflows had a beneficial effect on the growth of human capital.

Over a 20-year period from 2002 to 2022, Ibenyenwa, Ezeh, Adoms, Anaemena, Ogbonna, and Ezeaku (2023) looked into the influence of remittances from the diaspora on economic growth. The World Bank Data Atlas and the Statistical Bulletin of the Central Bank of Nigeria were the sources of secondary data. The empirical analysis employed the Granger causality test. The study found that per-capita income did not have a significant impact on the HDI, or Human Development Index. Furthermore, there was no discernible causal relationship between diaspora remittances and the HDI, and foreign direct investment had a negligible influence. Thus, the study came to the conclusion that the Human Development Index was not substantially impacted by remittances from the diaspora. According to the report, in order to support growth in the Human Development Index, authorities should enact efficient fiscal and monetary policies that will fortify the diaspora's remittance channel, ease inflows, and stimulate foreign direct investment.

Akokuwebe, Likoko, Osuafor, and Idemudia (2023) studied the factors influencing life satisfaction among migrants in South Africa, analyzing data from the GCRO's quality of life survey from 2009 to 2021. Descriptive statistics and bivariate and multivariate logistic regression were used to evaluate the data. The findings revealed that the gender distribution of life satisfaction indicated a higher percentage of international migrants (66.0% male and 67.1% female) reporting thriving life satisfaction compared to internal migrants (61.7% male and 61.5% female). The study found that factors at the individual, household, and community levels were linked to life satisfaction among migrants. Additionally, the study recommended that the government of South Africa monitor the life satisfaction of all its citizens, including migrants.

3. Methodology

3.1. Model specification

Secondary data from World Development Indicators were used in the study. Preliminary tests were performed on the data, including the Johansen co-integration test and the ADF unit root test. Additionally, diagnostic tests were performed, such as the Breusch-Godfrey test for autocorrelation, the Jarque-Bera test for normality, and the Breusch-Pagan-Godfrey test for heteroskedasticity. The quality of life in Nigeria and remittances from the diaspora were examined using the Auto-Regressive Distributed Lag (ARDL) econometric technique.

The paper adopt the convention Ordinary Least Square Model stated as
$$QOL_t = \alpha_0 + \alpha_1 RMT + \alpha_2 FDI + \alpha_3 INFL + \alpha_5 UNR + \alpha_6 EXCR \dots +$$
$e_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots1$

Where;

QOL is Quality of Life, RMT is the diaspora Remittance, Foreign Direct Investment, INFL is Inflation Rate, UNR is Unemployment and EXCR is Exchange Rate.

The study decomposed quality into Household Consumption Expenditure, Access to Health which is proxy with Domestic private health expenditure and Access to Education which is proxy with literacy rate. Thus, the study have three models stated as household consumption expenditure model, access to health model and access to education model.

Considering the household consumption expenditure model and using natural log on equation 1 and modifying the equation to an Auto-regressive Distributed Lagged (ARDL) model.

$$
\begin{aligned}
\Delta lnHCE_t = {}& \alpha_0 + \alpha_1 lnHCE_{t-1} + \alpha_2 lnRMT_{t-1} + \alpha_3 lnFDI_{t-1} + \alpha_4 lnINFL_{t-1} + \alpha_5 lnUNR_{t-1} \\
& + \alpha_6 lnEXCR_{t-1} \\
& + \sum_{i=0}^{n} \beta_1 ln\Delta HCE_{t-1} \\
& + \sum_{i=0}^{n} \beta_2 ln\Delta RMT_{t-1} + + \sum_{i=0}^{n} \beta_3 ln\Delta FDI_{t-1} \sum_{i=0}^{n} \beta_4 ln\Delta INFL_{t-1} \\
& + \sum_{i=0}^{n} \beta_5 ln\Delta UNR_{t-1} + \sum_{i=0}^{n} \beta_6 ln\Delta EXCR_{t-1} \\
& + \varepsilon_t \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots ..2
\end{aligned}
$$

Where; ln represent the natural log, $\alpha_0 - \alpha_6$ represent long run ARDL estimates, $\beta_1 - \beta_6$ represent short run estimates.

Bearing in mind the access to health model and using natural log on equation 1 and modifying the equation to an Auto-regressive Distributed Lagged (ARDL) model.

$$\Delta lnDPHE_t = \alpha_0 + \alpha_1 lnDPHE_{t-1} + \alpha_2 lnRMT_{t-1} + \alpha_3 lnFDI_{t-1} + \alpha_4 lnINFL_{t-1}$$
$$+ \alpha_5 lnUNR_{t-1} + \alpha_6 lnEXCR_{t-1}$$
$$+ \sum_{i=0}^{n} \beta_1 ln\Delta DPHE_{t-1}$$
$$+ \sum_{i=0}^{n} \beta_2 ln\Delta RMT_{t-1} + + \sum_{i=0}^{n} \beta_3 ln\Delta FDI_{t-1} \sum_{i=0}^{n} \beta_4 ln\Delta INFL_{t-1}$$
$$+ \sum_{i=0}^{n} \beta_5 ln\Delta UNR_{t-1} + \sum_{i=0}^{n} \beta_6 ln\Delta EXCR_{t-1}$$
$$+ \varepsilon_t \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots .3$$

Where; ln represent the natural log, $\alpha_0 - \alpha_6$ represent long run ARDL estimates, $\beta_1 - \beta_6$ represent short run estimates.

With reference to the access to education model and using natural log on equation 1 and modifying the equation to an Auto-regressive Distributed Lagged (ARDL) model.

$$\Delta lnLTR_t = \alpha_0 + \alpha_1 lnLTR_{t-1} + \alpha_2 lnRMT_{t-1} + \alpha_3 lnFDI_{t-1} + \alpha_4 lnINFL_{t-1} + \alpha_5 lnUNR_{t-1}$$
$$+ \alpha_6 lnEXCR_{t-1}$$
$$+ \sum_{i=0}^{n} \beta_1 ln\Delta LTR_{t-1}$$
$$+ \sum_{i=0}^{n} \beta_2 ln\Delta RMT_{t-1} + + \sum_{i=0}^{n} \beta_3 ln\Delta FDI_{t-1} \sum_{i=0}^{n} \beta_4 ln\Delta INFL_{t-1}$$
$$+ \sum_{i=0}^{n} \beta_5 ln\Delta UNR_{t-1} + \sum_{i=0}^{n} \beta_6 ln\Delta EXCR_{t-1}$$
$$+ \varepsilon_t \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots \ldots ..4$$

Where; ln represent the natural log, $\alpha_0 - \alpha_6$ represent long run ARDL estimates, $\beta_1 - \beta_6$ represent short run estimates.

4. Results and discussion of results

4.1. Descriptive statistics

Table 1. Descriptive statistics

	HCE	DPHE	LTR	RMT	FDI	INFL	UNR	EXCR
Mean	2.48E+13	27.59042	54.788	7.04E+09	1.257	18.0425	4.0458	89.97581
Median	2.41E+13	11.15728	54.885	5.50E+08	1.087	12.8765	3.9316	21.89526
Maximum	6.02E+13	78.95575	70.198	2.43E+10	4.282	72.8355	5.9990	370.2540
Minimum	8.33E+12	9.423945	45.567	2424527.	-1.1508	3.4576	3.7000	0.5467
Jarque-Bera	3.773631	8.145840	2.7094	8.846693	2.831	61.319	247.949	12.2205
Probability	0.151554	0.017028	0.2580	0.011994	0.242	0.0000	0.0000	0.0022
Observatios	53	53	53	53	53	53	53	53

Source: Authors Compilation

The descriptive statistics is presented in Table 1, focusing on key metrics such as mean, maximum, minimum values, and Jarque-Bera statistics. The analysis reveals that, on average, Household Consumption Expenditure, Access to Health, Access to Education, Diaspora Remittance, Foreign Direct Investment, Inflation Rate, Unemployment and Exchange Rate in Nigeria amount to ₦248 billion, 27.5%, 54.7% ₦704 trillion, 18.04%, 4.04% and 89.97% respectively. Additionally, Household Consumption Expenditure peaked in 2022 at ₦602 billion and hit its lowest point in 1983 at ₦833 million. Nigeria have highest access to health in 2014 and least access to health in 1970 while in 2006 Nigeria have the highest access to education and the least in 1970. Nigeria witnessed its highest Diasporal Remittance in 2022 and the lowest in 1988. Foreign Direct Investment, Inflation rate, unemployment and exchange rate reached their peaks in Nigeria in 1989, 1995, 2022, and 2020 respectively, while they were at their lowest in 2022, 1972, 2013 and 1980 respectively. Furthermore, the Jarque-Bera statistics for Household Consumption Expenditure, Access to Health, Access to Education, Diaspora Remittance, Foreign Direct Investment, Inflation Rate, and Unemployment and Real Exchange Rate are 3.77, 8.1458, 2.7094, 8.84, 2.831, 61.31, 247.94 and 12.22 respectively, with corresponding probability values of 0.151, 0.0170, 0.258 0.011, 0.242, 0.000, 0.002, and 0.000. Based on the Jarque-Bera Probability values, only Household Consumption Expenditure, access to education and foreign direct investment does not follow a normal distribution.

4.2. Unit root test result

Table 2. Unit root test

Variable	ADF @LEVEL	ADF @ FIRST DIFFERENCE	ORDER OF INTEGRATION
HCE	0.9484	0.0000	I(1)
DPHE	0.9336	0.0000	I(1)
LTR	0.5409	0.0000	I(1)
RMT	0.7877	0.0000	I(1)
FDI	0.0030	0.0000	I(0)
INF	0.0104	0.0000	I(0)
UNR	0.8242	0.0000	I(1)
EXCR	1.0000	0.0000	I(1)

Source: Authors Compilation

The result from Table 2 can be inferred that most of the variables require differencing once to achieve stationarity, except for Foreign Direct Investment (FDI) and inflation (INF), which is already stationary without differencing. This suggest that ARDL is the most appropriate technics for the test of hypotheses.

4.3. Diagnostic test

Diagnostic test is data analysis that lead to procedures or techniques used to assess the quality, validity, or assumptions of a statistical model. These tests are designed to identify potential issues, errors, or violations of assumptions that could affect the reliability or interpretation of the results. This study employs Jacque-bera normality, Bresusch-Godfrey serial correlation and the Breusch-Pagan-Godfrey heteroscedasticity test to test for the validity of the data set.

Table 3 reveals the diagnostic test result for the three models with to Jarque-Bera Normality test, serial correlation and heteroscedasticity. The normality test of household consumption expenditure model, access to health model and access to education model the corresponding probability value of 0.0254, 0.1411 and 0.0000 respectively. The Jarque-Bera test statistic measures the extent to which the distribution of your dataset deviates from a normal distribution. A higher test statistic indicates a greater deviation. In this instance, the probability value is 0.1411, which is more than the threshold value of 0.05. This indicates that there is insufficient evidence to reject the null hypothesis that the data are normally distributed at a 5% significance level. Moreover, the p-values

of 0.0254 and 0.0000 are less than the threshold value of 0.05, suggesting that the data is not normally distributed. Therefore, based on the Jarque-Bera test, the data on access to health is normally distributed while household consumption expenditure and access to education is not normally distributed.

Table 3. Diagnostic test

	NORMALITY TEST	SERIAL CORREELATION	HETEROSKEDASTICITY
Household Consumption Expenditure model	0.0254	0.3738	0.7092
Access to Health model	0.1411	0.9447	0.0649
Access to Education model	0.0000	0.5830	0.0227

Source: Authors Compilation

On the other hand, the Breusch-Godfrey Serial Correlation LM Test is utilized to ascertain whether serial correlation, also known as autocorrelation, exists within the regression model's residuals. The three models' respective F statistics are 0.3738, 0.9447, and 0.5830. The null hypothesis is accepted since the probability values above the crucial value of 0.05. This suggests that there is no discernible autocorrelation and that the residuals seem independent of one another.

Lastly, the Breusch-Pagan-Godfrey heteroscedasticity reveals probability values for, household consumption expenditure, access to health and access to education as 0.7092, 0.0649 and 0.0227 respectively. With the threshold of 0.05 the null hypothesis is rejected if the probability value is greater than the critical value implying that, the model is homoscedastic. Thus, household consumption expenditure and access to health are homoscedastic while access to education model indicate the present of heteroscedasticity however the study still suggest the model to stability test to examine if the estimates are stable and validate for policy recommendations.

4.4. Stability test

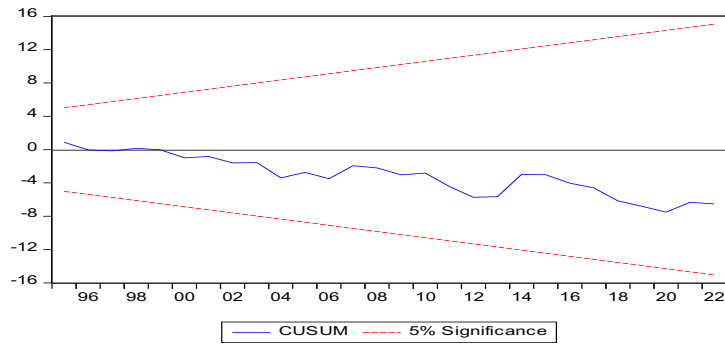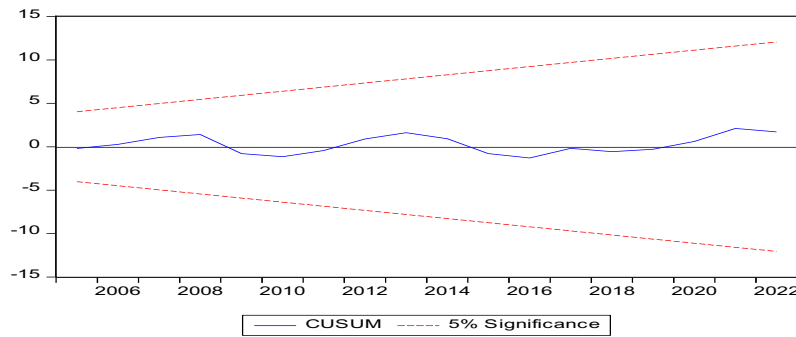**Figure 1.** CUSUM Test result for Household Consumption Expenditure Model

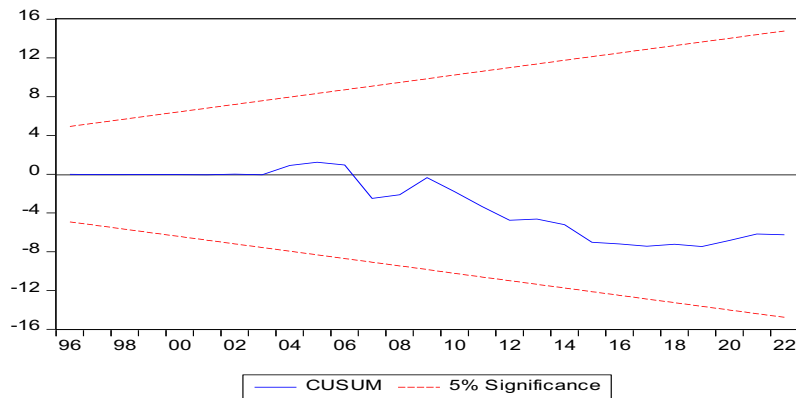**Figure 2.** CUSUM Test Result for Access to Health Model

Figure 3. CUSUM Test Result for Access to Education Model

The results of the stability tests for the models of household consumption expenditure, access to health care, and access to education are shown in Figures 1, 2, and 3. The blue line in the CUSUM

test results, which are displayed in Figures 1, 2, and 3, is surrounded by two red lines, signifying that the tested models remained stable throughout the observed duration. The cumulative sum of the differences between the actual and expected values under the stability null hypothesis is represented by the blue line. The bounds between which the blue line should fluctuate if the model is stable are defined by the two red lines, which act as crucial or threshold lines. The fact that the blue line remains contained between the two red lines suggests that the model's parameters have not changed over time and that the relationship under study is not unstable or undergoing structural change. In other words, the variables in the model exhibit consistent behavior and maintain their relationship over the observed period.

4.5. Short run ARDL Bounds Test for household consumption expenditure model

Table 4. Short Run ARDL Test for Household Consumption Expenditure Model

VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	PROB.*
LOGHCE(-1)	0.278609	0.159315	1.748794	0.0913
LOGRMT	-0.034576	0.015274	-2.263745	0.0315
FDI	-0.005363	0.008520	-0.629504	0.5341
FDI(-1)	0.009341	0.008551	1.092466	0.2839
FDI(-2)	0.021751	0.008543	2.546176	0.0167
FDI(-3)	0.033230	0.009842	3.376501	0.0022
FDI(-4)	0.032676	0.011573	2.823567	0.0086
INFL	-0.000901	0.000560	-1.608655	0.1189
UNR	-0.061268	0.038447	-1.593573	0.1223
UNR(-1)	0.118185	0.100090	1.180789	0.2476
UNR(-2)	-0.284576	0.148766	-1.912910	0.0660
UNR(-3)	-0.302431	0.236328	-1.279709	0.2111
UNR(-4)	0.527099	0.181005	2.912069	0.0070
EXCR	0.001317	0.000577	2.283058	0.0302
EXCR(-1)	0.000329	0.000700	0.469182	0.6426
EXCR(-2)	0.001428	0.000758	1.883785	0.0700
EXCR(-3)	-0.001152	0.000554	-2.078480	0.0469
C	7.031303	1.331727	5.279836	0.0000
Coefficient of determination	0.984606			
Corrected R-squared	0.973610			

Source: Authors Compilation

Table 4 demonstrates that the regression model's independent variables account for around 98% of the variance in the dependent variable, as indicated by the R-squared value of 0.98. At 0.97, the Adjusted R-squared which takes the number of predictors in the model into account is quite high. The result further reveals that, a onetime change household consumption expenditure is influenced by diaspora remittance negative by 0.0345. The associated probability value of 0.0315 this indicates that this coefficient is statistically significant at the 5% significant levels. This implies that, an increase in diaspora remittance lead to reduction in household consumption expenditure. This result is not theoretical plausible because theoretical an increase in diaspora remittance is expected to impact household consumption expenditure positively.

4.6. Long run ARDL Bounds Test for household consumption expenditure model

Table 5. Long Run ARDL Test for Household Consumption Expenditure Model

VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	PROB.
LOGRMT	-0.065936	0.026166	-2.519933	0.0177
FDI	0.174749	0.026560	6.579332	0.0000
INFL	-0.001718	0.001022	-1.680307	0.1040
UNR	-0.005705	0.116387	-0.049015	0.9613
EXCR	0.003666	0.000573	6.394854	0.0000
C	13.40870	0.535322	25.04791	0.0000

Source: Authors Compilation

The outcomes of the long-run ARDL Bounds Test, a statistical method for identifying if variables in a regression framework have a stable connection, are shown in Table 5. This process involves first estimating an ARDL model and then assessing the importance of coefficients associated with the variables' lagged levels. The findings indicate that over the long term, alterations a singular adjustment in Diaspora Remittance is projected to negatively affect Household Consumption Expenditure by 0.065% in the long run. This result is statistical significance, given that the probability value of 0. 0177 which is within the conventional threshold of 0.05. This implies that, an increase in diaspora remittance will decrease household consumption expenditure in the long run, this result is not theoretical plausible.

4.7. Short run ARDL Bounds Test for access to health model

Table 6. Short Run ARDL Test for Access to Health Model

VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	PROB.*
DPHE(-1)	0.134846	0.130318	1.034744	0.3081
LOGRMT	-0.517198	0.709689	-0.728767	0.4711
FDI	0.524007	0.474290	1.104826	0.2770
INFL	-0.002795	0.027284	-0.102430	0.9190
UNR	-3.464335	1.601445	-2.163256	0.0376
UNR(-1)	-14.60652	2.502468	-5.836846	0.0000
EXCR	-0.113820	0.025239	-4.509625	0.0001
EXCR(-1)	0.065073	0.035758	1.819800	0.0776
EXCR(-2)	-0.012715	0.038988	-0.326134	0.7463
EXCR(-3)	0.031460	0.043731	0.719397	0.4768
EXCR(-4)	0.221179	0.041731	5.300087	0.0000
C	78.23932	14.43428	5.420384	0.0000
Coefficient of Determination	0.993045			
Corrected R-squared	0.990180			

Source: Authors Compilation

The access to health model's short-run ARDL coefficient results are displayed in Table 6. With an R-squared of 0.99, the independent variables in the regression model account for about 99% of the variance in the dependent variable. Additionally, the model's Adjusted R-squared, which takes the number of predictors into account, is 99%. This implies that the dependent and independent variables have a high correlation. The result also shows that diaspora remittances have a negative impact of 0.5171% on a one-time shift in access to health expenditure. At the 5% significance level, the coefficient is not statistically significant, according to the related probability value of 0.4711. This connote that, an increase in diaspora remittance lead to reduction in access to health. However, this implies that there no enough evidence to conclude that increase in diaspora remittance will reduce access to health care in Nigeria.

4.8. Long Run ARDL Bounds Test for Access to Health Model

Table 7. Long Run ARDL Test for Access to Health Model

VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	PROB.
LOGRMT	-1.406876	1.921740	-0.732084	0.4691
FDI	1.425398	1.337504	1.065715	0.2941
INFL	-0.007602	0.074369	-0.102223	0.9192
UNR	-49.15611	6.369072	-7.717938	0.0000
EXCR	0.520034	0.046584	11.16347	0.0000
C	212.8256	33.83437	6.290220	0.0000

Source: Authors compliation

Table 7 displays the results of the long-run ARDL Bounds Test for the access to health model. The results indicate that in the long run, a unit change in access to health is negatively contributed by diaspora remittances by 1.4068%. This result is not statistical significance, given that the associated likelihood value is 0. 4691 which is greater than the conventional threshold of 0.05. However, this implies that, the impact of diaspora remittance does not have a lasting impact on access to health care in Nigeria.

Short Run ARDL Bounds Test for Access to Education Model

Table 8. Short Run ARDL Test for Access to Education Model

VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	PROB.*
LTR(-1)	1.003290	0.148428	6.759420	0.0000
LOGRMT	1.506843	0.941906	1.599781	0.1205
LOGRMT(-1)	-0.673206	1.229131	-0.547709	0.5881
LOGRMT(-2)	-2.555656	1.026166	-2.490491	0.0187
FDI	0.090039	0.416408	0.216229	0.8303
INFL	0.027148	0.022920	1.184450	0.2459
UNR	-2.241871	1.246448	-1.798607	0.0825
UNR(-1)	3.518353	3.740110	0.940709	0.3546
UNR(-2)	-8.417374	3.922513	-2.145913	0.0404
EXCR	0.024742	0.018059	1.370043	0.1812
EXCR(-1)	-0.013205	0.025936	-0.509139	0.6145
EXCR(-2)	0.049184	0.020061	2.451764	0.0205
C	63.29926	13.24324	4.779743	0.0000
Coefficient of Determination	0.934498			
Corrected R-squared	0.889325			

Source: Authors Compilation

Table 8 displays the short term ARDL coefficient for the access to education model. It shows that the independent variables in the regression model account for approximately 93% of the variance in the dependent variable, with Coefficient of determination of 0.93. The Corrected R-squared is 88% when the number of predictors in the model is taken into account. This indicate a high correlation between dependent and independent variables. The outcome further reveals that, a onetime change in access to education expenditure is influenced by diaspora remittance positive in the first period by 1.5068%. in the second and third period a onetime change in access to education expenditure is influenced by remittance negatively by 0.6732 and 2.5555. The associated probability value in first, second and third is 0.1205, 0.5881 and 0.0187 respectively. This indicates that the first and second coefficient is not statistically substantial at the 5% critical value while in the third period it became significant at 5% critical value. This implies that, an increase in diaspora remittance lead to reduction in access to education.

Long Run ARDL Bounds Test for Access to Education Model

Table 9. Long Run ARDL Test for Access to Education Model

VARIABLE	COEFFICIENT	STD. ERROR	T-STATISTIC	PROB.
LOGRMT	-3.600224	1.978799	-1.819398	0.0792
FDI	-1.880009	1.089147	-1.726130	0.0950
INFL	0.274329	0.078145	3.510516	0.0015
UNR	-14.92945	5.973788	-2.499160	0.0184
EXCR	0.126949	0.040069	3.168233	0.0036
C	132.3397	36.02372	3.673681	0.0010

Source: Authors Compilation

The outcomes of the long-term ARDL Bounds Test for the access to education model are shown in Table 9. The study suggests that, over time, diaspora transfer have an inverse relationship with 3.6002% impact on changes in access to education. The probability value is 0.0792, which is higher than the 0.05 threshold, hence this result is not statistically significant at the 5% critical value. This suggests that there is insufficient data to draw the conclusion that diaspora remittances will eventually have a detrimental effect on access to education.

4.9. Discussion of Results

This study looked into the relationship between diaspora remittances and quality of life. Three primary factors were used to assess quality of life: household consumption spending, access to

healthcare, and access to education. The model's findings show that diaspora remittances have a statistically significant negative and small impact on household spending over the long run. This result defies economic theory predictions as well as the claims made by Fernia (2008), Obi, Bartolini, and D'Haese (2019), and Orekoya and Tijani (2023), who contend that diaspora remittances significantly improve human capital development and food security, improving quality of life. However, this result aligns with the conclusions drawn by Mintah and Nikoi (2015), who found a negative impact of diaspora remittances on quality of life. One possible explanation for this inconsistency could be the bureaucratic obstacles and high transaction costs associated with remitting money to Nigeria, which reduce the amount received by recipients and create delays in accessing funds due to regulatory requirements and documentation procedures imposed by both sending and receiving countries.

Furthermore, the second model indicates that diaspora remittances negatively influence access to healthcare both in the short and long term, suggesting that an increase in diaspora remittances decreases access to healthcare in Nigeria. This finding contradicts the results of Uzochukwu and Chukwunonso (2014), whose study suggested that diaspora remittances positively influence access to healthcare services in Nigeria. However, this result is not statistically significant, implying that there is insufficient evidence to conclude that diaspora remittances decrease access to healthcare in Nigeria. This result supports the findings of Ibenyenwa et al. (2023), who revealed that diaspora remittances have an insignificant impact on access to healthcare services in Nigeria. This result may hold true because most Nigerians may not have prioritized health care service and only seek for health care service only when they are sick.

Lastly, the model concerning access to education shows that in the short term, diaspora remittances negatively affect access to education in Nigeria, implying that an increase in diaspora remittances decreases access to education. This result is statistically significant, thus contradicting the studies of Orekoya and Tijani (2023) and Uzochukwu and Chukwunonso (2014), whose studies reveals that diaspora transfers have a positive impact on the development of human capital. This result may be attributed to individuals prioritizing spending their income on other expenses rather than accessing education.

5. Conclusion and Recommendations

According to the study's findings, remittances from the diaspora negatively affect Nigerian household consumption and educational access, as measures of quality of life. However, there remains a debate regarding the influence of diaspora remittances on access to healthcare in the country. The study suggests that the government should work in partnership with financial institutions and international organizations in other to remove bureaucratic bottle necks that

surround diaspora remittance this will enhance transparency, lower transaction costs, facilitate access to formal channels, and encourage financial literacy among recipients of remittances. Again, government should carry out sensitization campaigned in favour of routine medical check up to ensure good health. This campaigned will throw more light on benefits of accessing health care since good health is wealth. Lastly, government should educate her citizens on the need to prioritized human capital development particularly through acquiring formal education.

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