Journal of Social Sciences and Management Studies ISSN: 2957-8795
https://doi.org/10.56556/jssms.v4i2.1228

RESEARCH ARTICLE

Effect of remittance inflow on household consumption expenditure in Nigeria

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Received: 28 March, 2025, Accepted: 10 April, 2025, Published: 18 May, 2025

Abstract
Remittance inflows play a crucial role in household consumption expenditure in Nigeria. Understanding the macroeconomic factors influencing this relationship is essential for economic planning and policy formulation. This study examines the relationship between remittance inflows and household consumption expenditure in Nigeria while also analyzing the impact of other macroeconomic factors. The study utilizes annual time series data from 1985 to 2023 and employs the Autoregressive Distributed Lag (ARDL) model for data analysis. Findings indicate that remittance inflows have a significant positive effect on household consumption expenditure. However, inflation is identified as a major macroeconomic variable that negatively affects household consumption expenditure in Nigeria. Foreign Direct Investment (FDI) and GDP growth rate have a significant positive impact on household consumption expenditure in Nigeria, Additionally, the exchange rate (EXCH) shows a significant negative impact on household consumption expenditure in Nigeria. To enhance remittance inflows and improve household welfare, Nigeria should reduce taxes or charges on remittances and their channels of transfers. This will be followed by improvements in the financial and payment system digital infrastructures that are accessible to the Diasporas and the domestic receivers, thereby boosting remittance inflows in Nigeria, which will lead to improvement in household consumption expenditure and aggregate demand.

Keywords: Remittance Inflow; Household Consumption Expenditure; Macroeconomic Factors; Inflation; Autoregressive Distributed Lag (ARDL) Model

Introduction

Internationally, household consumption expenditure has been significantly influenced by global financial integration which is characterized by capital and financial flows from developed economies to developing ones (Adegbite and Adetiloye, 2013). One such component of financial flow is remittance, which is seen as the money sent by migrant or foreign workers to their native home country (Ratha, 2019). Personal remittances have become a major income source for numerous households around the globe and have become a key component of external financial inflows into Nigeria and other Sub-Saharan African countries, with the aim of improving the welfare of the recipients (World Bank, 2023). Thus, poverty reduction, improvement in household consumption spending, improved savings and overall improvement in well-being is increasingly put forward as the main objective of personal remittance to developing countries. Consumption spending is one of the major determinants of the living standards in a society (Yunana and Usman, 2023). The consumption pattern in Nigeria has implication for the aggregate demand of goods and services in the country, and it also reflects the level of welfare and human development that the country is experiencing (Nigeria Living Standard Survey, 2019). Recently, household consumption spending in Nigeria

has been fluctuating since 1981, recent records show declining household consumption. The fluctuation in the household consumption spending in Nigeria reflects the increasing cost of living crisis and poverty level. Also, the decline in household consumption expenditure reflects the economic downturn experienced in the country since 2016 which has increased the poverty rate in the country (Adegbesan, 2024; Yunana and Usman, 2023). Thus, with many households in Nigeria struggling to earn a living in Nigeria, remittances from abroad have become an important source of finance to many households in the country Ibrahim et al., (2024). Remittances are the monies sent by nationals living and working either in their own countries or abroad to families in their home countries (Akerele et al., (2022). Remittance inflows constitute a significant source of household income, which could be expended on food and non-food items such as durable goods, health care and housing (Williams, 2020). They do not only enhance consumption, they create multiplier effects on the economy when invested or spent on domestically produced goods (Ratha, 2007). Since 2015, remittances have been the largest source of external finance flows to low-and middle-income countries other than China Ratha et al., (2024). Remittances to low and middle-income countries grew by 3.8% in 2023, estimated to have reached $669 billion. By region, remittance inflows in 2023 grew for Latin America and the Caribbean by 8%, 7.2% for South Asia, 3% for East Asia and the Pacific (World Bank, 2023). In Sub-Saharan Africa it increased by about 1.9% to $54 billion in 2023, driven by strong remittance growth to the tune of 48.5% in Mozambique, 16.8% in Rwanda and 16% in Ethiopia. Remittances to Nigeria, accounting for 38% of remittance flows to the region, decreased by about 2% in 2023. Remittances from the Nigerians living abroad reached $20bn in 2023, according to the World Bank, slightly lower than the $21bn a year earlier, and still about a third of the entire flows to sub-Saharan Africa for the year, (World Bank, 2023). Nevertheless, remittance inflow has the potential to boost household income, promote economic growth, reduce poverty, and lead to overall economic stability. For many countries, international remittances are a crucial source of support for development, according to Asian Development Bank [ADB] (2017), a 1% increase in international remittances can decrease poverty intensity by 16%. This emphasizes the importance of remittances in supporting household incomes, increasing consumption spending and enhancing economic stability.

Nigeria is currently experiencing its worst economic crisis in a generation, leading to widespread hardship and poverty. The current administration of President Ahmed Tinubu has introduced many economic reforms like subsidy removal in energy prices and floating the exchange rate which have led to the rising cost of living. Overall, annual inflation, which is the average rate at which prices go up, is now close to 30% - the highest figure in nearly three decades, causing the cost of food to rise higher by 35%. Also, by floating the naira, its value has plunged by more than two-thirds, briefly hitting an all-time low in recent period, causing a very persistent rise in prices of all imported products (Adegbesan, 2024). All these factors have caused a cost of living crisis, thereby reducing household consumption in Nigeria. When a country is experiencing a reduction in consumption spending, it implies that there will also be a reduction in aggregate demand leading to an increase in poverty rate, unemployment rate, and a fall in domestic investments and a greater increase in prices of goods and services Yunana and Usman (2023). Although remittance inflows from abroad is seen as a succor for some of these households in Nigeria amidst low income and economic downturn, however remittance inflows have been affected by high cost of remittance transfers. In the fourth quarter of 2023, remittance senders paid an average of 7.9% to transfer $200 to African countries, which is an increase from 7.4 percent in the fourth quarter of 2022 (Ratha, et al., 2024). Studies such as Ratha and Mohapatra, (2007) have opined that remittances should not be taxed heavily in order not to discourage them or make them volatile; instead they should be made cheaper and more convenient. Thus, with the high cost of remittances and harsh economic factors discouraging them, households and the economy are left vulnerable to the volatile and speculative nature of such inflows which do not achieve an equitable welfare impact. Against this background, the paper seeks to examine the effect of remittance inflow and other macroeconomic factors on household consumption expenditure in Nigeria. To achieve this objective, the following hypotheses were stated and tested.

H_{01}: Remittance inflow has no significant effect on household consumption expenditure in Nigeria.
H_{02}: Macroeconomic factors have no significant effect on household consumption expenditure in Nigeria.

Literature Review

Conceptual Review

Remittances involve the transfer of money between individuals, which can take the form of a bill, an invoice, or a gift. More specifically, the term remittance encompasses the funds that migrants send to their family members in their country of origin while they are employed and residing in a foreign nation. These transactions are also known as worker or migrant transfers. In other words, remittance is the process of sending money by migrants living abroad, often to help family or friends (The Economic Times, 2025). Similarly, remittance is known as the transfer of money or funds from one country to another by migrant workers who send money back to their home countries (Alechenu, 2021). Also, a remittance is a non-commercial transfer of money by a foreign worker, a member of a diaspora community, or a citizen with familiar ties abroad, for household income in their home country Al-Assaf and Almalki (2014). Remittances are vital for the economies of many developing nations, helping to reduce poverty, boost household consumption spending, and drive economic progress. In developing countries like Nigeria with sluggish economic growth, remittances play a vital role as family members working abroad contribute significantly to household income and spending. These financial inflows significantly enhance living standards in less developed countries. With access to remittances, individuals in these regions can open bank account, which contributes positively to overall economic development.

Household consumption expenditure reflects the behavior of households and their purchasing power and represents one of the important measures of economic activity. Akpan and Brown (2024) sees consumption expenditure as the market prices of all goods and services acquired by households to fulfill their needs and desires, encompassing both food and non-food expenditures. In Nigeria, households spend over 60 percent of their income on food items and approximately 40 percent on non-food items. Similarly, Madudova and Tatiana (2024) defined household consumption expenditure as the amount of money spent by households on goods and services, whether long-term or short-term consumption, on housing, and on public services. Measuring household consumption expenditure is important for the analysis of economic growth, inflation, and overall economic performance. Household consumption expenditure is a significant part of the family budget. Understanding the relationship between the number of children in the household and their consumption needs can help with budgeting and financial planning.

Empirical Review

Ibrahim et al., (2024) examined whether remittance improves the welfare of households in Nigeria for the period 1986-2022. The study employed the Autoregressive Distributed Lag (ARDL) model in analyzing the data and the study found that remittances increase household consumption expenditure in the short run. However, the result shows negative effect of remittances on the household welfare both in the short run and the long run when welfare is measured using interaction of inflation and household consumption. Makina, (2024) examined the long-run relationship between remittances and household consumption in Lesotho for the period 1991-2019. The study analyzed the data using the Johansen cointegration technique and the Engle-Granger residual approach. The study found a significant positive long-run equilibrium relationship between household consumption, remittances and gross national income per capita. The study also found that in the short-run, remittances negatively affect household consumption, while remittances have a positive significant effect on household consumption in the long run in Lesotho. Dey et al., (2024) investigate how the transfer of international remittances influences the expenditure behavior of returnee migrant families in Bangladesh. The primary data were collected using a multi-stage stratified random sampling technique through a structured questionnaire. The study reveals that remittances have a significant and positive impact on poverty reduction, contributing substantially to income generation and increased consumption expenditures. Therefore, the study agrees that foreign remittances support and increase investments in both the physical and human capital of migrant families, also improving the well-being of Bangladeshi people.

Ikwuakwu et al., (2024) examined the impact of foreign remittances on economic growth in Nigeria using annual time series data from 1981–2019. The study adopted the Autoregressive Distributed Lag for data analysis, and from the long-run and short-run results, the result found that remittances had a negative and significant effect on economic growth in Nigeria after controlling for FDI, gross fixed capital formation, inflation and exchange rate. The study concluded that the effect of remittances though negative but significant in explaining the changes in economic growth of Nigeria. Owoeyea and Omoniyi (2024) examined the effect of remittance inflows on Nigeria economy from 1981 to 2021. The study employed the Error Correction Model for data analysis and the results revealed that in the short term, remittance inflows had an insignificant negative effect on economic growth in Nigeria. However, in the long run, remittance inflows show a significant positive effect economic growth in Nigeria. The study recommended the implementation of policies, programs, and systemic reforms to encourage the productive utilization of remittances. It emphasized the need to ensure that remittances are utilized in ways that contribute to long term economic growth and development. Nasrin et al., (2024) examined the well-being effect of international migration and remittance on human and gender development in seven South Asian countries from 1995 to 2020. The study adopted the panel regression fixed effects model for the analysis and the study revealed that personal remittance positively and significantly affects human and gender development. Also, international migration significantly influences human development while negatively affecting gender development. The study therefore suggested that the provision of cheaper formal channels for remitting money and giving incentives can be effective for higher remittance inflow. Cahyanti and Sugiharti (2022) examined the impact of remittances on consumption and household assets in Indonesia, highlighting the relationship between international migration and consumption behavior. The study utilized panel data from the Indonesian Family Life Survey (IFLS) 4 and 5 (2007 and 2014) and employed the Ordinary Least Squares (OLS) method. The findings from the study indicate that remittances significantly enhance food consumption, non-food consumption, total consumption, and asset ownership among recipient households. Adeseye, (2021) examined migrants' remittances and household expenditure patterns in Nigeria. The study adopted a survey research method with the aid of a questionnaire. It found a significant relationship among remittances, income, consumption expenditure, and investments of households in Nigeria. The study recommends that the government enhance data collection and monitoring of remittances and create policies encouraging the use of remittances for long-term development and income security to utilize the influx of remittances for household expenditure in Nigeria. Ramanie et al., (2020) examined the impact of private remittances on household expenditure behavior. The study adopted national representative microdata and quasi-experimental methods. The study found that private remittances significantly increase household per-capita expenditure, leading to positive changes in spending on basic needs and investments in human and physical capital. The study therefore recommends that promoting migration is beneficial for increasing remittance flows, necessitating effective remittance-transfer mechanisms.

Abubakar and Folawewo (2019) examined the impact of the various types of remittances on households' investment in Nigeria. The data used for the analysis were obtained from the 2009/2010 harmonized Nigerian living standard survey, with the application of the Ordinary Least Squares (OLS) technique in estimating the model and the probit regression used as robustness check. The study found that cash remittance and aggregate remittance increase investments in households in the urban areas more than it does in the rural areas. Cash remittance also and promotes investments in the North Central and South West zones. Food remittance has positive impact on investments in the rural areas and the South East while those of other remittances are negative and inconsequential in the rural and urban areas and in the geo-political zones. Musakwa and Odhiambo (2019) examined the impact of remittance inflows on poverty in Botswana using time-series data from 1980 to 2017. The study employed two proxies for poverty—household consumption expenditure and infant mortality rate—to capture its multidimensional nature. Utilizing the autoregressive distributed lag (ARDL) approach, the findings indicate that remittances significantly reduce poverty when measured by infant mortality rates in both the short and long run. Conversely, no significant impact is observed when using household consumption expenditure as a proxy. The study concludes that enhancing policies to support remittance inflows could substantially benefit Botswana. Bam et al., (2018)

examined the impact of remittance income on household per capita income, consumption, and poverty metrics in Nepal using data from the Nepal Living Standard Survey III. The study employed simple linear and log-linear regression models. The findings from the study revealed that remittance income significantly enhances household per capita income and consumption. There is a notable negative correlation between remittance income and the proportion of the poor quintile population, alongside a positive correlation with the richest quintile. The study also found that an inverse relationship exists between remittances and poverty headcount ratio and poverty gap, indicating that increased average per capita remittance income correlates with reduced poverty levels.

Thapa and Acharya (2017) investigate the impact of remittances on household expenditure in Nepal. The study employed propensity score matching to mitigate selection bias in observational data from the Nepal Living Standards Survey 2010/2011. The findings indicate that households receiving remittances generally allocate more funds towards consumption, health, and education compared to those not receiving remittances. While the study does not definitively categorize remittance use as productive or non-productive, it highlights a notable increase in expenditures on durable goods, health, and education among remittance-receiving households, suggesting potential long-term welfare benefits. Gebregziabher, (2016) examined the impact of international remittances on expenditure patterns of urban households in Ethiopia. The study employs the use of primary household survey data collected in 2013 from four major urban areas—Addis Ababa, Gonder, Hawassa, and Mekelle. The study revealed that households which receive remittances from abroad spend, on average and ceteris paribus, a higher share of their budgets on investment-type goods such as education, health, and housing and a lower share of their budgets on food compared to households which do not receive remittances. The study therefore recommends that remittances should be channeled toward investments rather than toward consumption. Haider et al., (2016) examined the impact of remittances on consumption and savings behavior among rural households in Bangladesh. The study employed the path model analysis with structural equation modeling (SEM) methodology. The findings from the study reveals a statistically significant positive effect of remittances on both food and overall consumption expenditures, as well as savings. The study concludes that remittances significantly influence consumption and savings behaviors in the rural southwest region of Bangladesh, suggesting the need for further research with a more randomized sample for enhanced robustness.

Theoretical Framework

The theoretical foundation is based on the Keynesian absolute income hypothesis which sees remittances as an injection into a Keynesian-type circular flow of income in remittance-recipient countries. Remittance inflows, like any other injection into the circular flow, increases economic activity by increasing the level of aggregate expenditure, which could be in the form of higher household expenditure on consumer goods, increased business expenditure on investment goods, and increased government expenditure on welfare services. An increase in real disposable income of a country would more likely raise the consumption spending on goods and promote human development.

Aggregate Expenditure (AE): Total spending in an economy at a given income level: $AE=C+I+G$ where:
C = Consumption, I = Investment, G = Government Spending,

Marginal Propensity to Consume (MPC): Proportion of additional income spent on consumption: $MPC=\Delta C/\Delta Y$

Impact of Remittances: Increased disposable income (Yd) leads to higher consumption (C):$C=C0+MPC\cdot Yd$ where C0 represents autonomous consumption.

Multiplier Effect: Initial increase in spending leads to further expenditure: $k=1/1-MPC$

Methodology

Sources and Nature of Data

The research design employed in this study is ex-post facto. The data used in this study is secondary data which covers the period from 1985 to 2023. The household consumption expenditure and other macroeconomic data is obtained from the Central Bank of Nigeria 2023 statistical bulletin, while data on remittance and foreign direct investment is sourced from (World Bank, 2023).

Model Specification

The study adopted and used the Autoregressive Distributed Lag model (ARDL). The foundation of the model was based on the theoretical framework of the study and adapted from the work of Makina (2024) who studied the long-run relationship between remittances and household consumption in Lesotho. The functional specification for the model is written as:

$$HCEX = f(REM, FDI, INFL, EXCH, GDPGR) \quad (1)$$

Where: HCEX is the Household consumption expenditure, REM is the Remittance inflow (Personal remittance inflow as a ratio of GDP), FDI is the Foreign Direct Investment (used as ratio of Net-inflow to GDP), INF is the Inflation, EXCH is the Exchange rate (measures the rate of naira to dollar) and GDPGR is the Growth rate of GDP Equation (1) was modified and specified to be transformed into econometric form following the paper's objective.
Where:

$$HCEX_t = \beta_0 + \beta_1 REM_t + \beta_2 FDI_t + \beta_3 INFL_t + \beta_4 EXCH_t + \beta_5 GDPGR + u_i \quad (2)$$

The β_0 is Intercept, β_1, β_2, β_3, β_4 and β_5 are Slope and μ_i is the Error Terms.

The ARDL model starts with a bound test used for testing for long run equilibrium relationship between the variables. This was done using a critical value divided into lower limit and upper limit, test statistics is expected to fall above the lower and upper limits for a cointegration to exist after the lists of the variables were checked to know which of the variables will be integrated at levels and at order 1. On this ground, once the existence of a long run cointegration relationship has been established, the conditional ARDL long run model can be specified as:

$$HECX_t = \beta_0 + \beta_1 \sum_{i=1}^{p} HECX_{t-1} + \beta_2 \sum_{i=1}^{p} REM_{t-1} + \beta_3 \sum_{i=1}^{p} FDI_{t-i} + \beta_4 \sum_{i=1}^{p} INF_{t-i} + \beta_5 \sum_{i=1}^{p} EXCH_{t-i} + \beta_6 \sum_{i=1}^{p} GDPGR_{t-1i} + \mu_t \quad (3)$$

Finally, the short run dynamic parameters were obtain by estimating an error correction model associated with the long run estimates. This is specified as follows:

$$(\Delta HECX)_t = \beta_0 + \beta_1 \sum_{i=1}^{p} HECX_{t-1} + \beta_2 \sum_{i=1}^{p} (\Delta REM)_{t-1} + \beta_3 \sum_{i=1}^{p} (\Delta FDI)_{t-i} + \beta_4 \sum_{i=1}^{p} (\Delta INF)_{t-i} + \beta_5 \sum_{i=1}^{p} (\Delta EXCH)_{t-i} + \beta_6 \sum_{i=1}^{p} (\Delta GDPGR)_{t-n} + \beta_7 ECM_{t-1} + \mu_t \quad (4)$$

Equation (4) was employed to assess both the short-run and long-run relationships, as well as the effect of remittance inflow on household consumption expenditure in Nigeria. The coefficient of the error correction (ECM_{t-1}) will indicate the percentage of the error corrected each year that is, the speed of adjustment.

The variables of this study would be subjected to non-stationary test using the Augmented Dickey fuller (ADF) testing procedure. The unit root test regression equations with constants are;

$$\Delta(Y)_t = \alpha_o + \alpha_1 (Y)_{t-1} + \sum_{T=1}^{m} pi\, \Delta (Y)_{t-1} + \mu_t . \quad (5)$$

Variable Description and Data Source

Table 1. Description of the Variables Used for the Model

Variables	Variable Description	Source of Data
HCEX	Household consumption Expenditure	CBN 2023
REM	Remittance inflow (Personal remittance inflow as a ratio of GDP).	World Bank 2023
FDI	Foreign Direct Investment (used as ratio of Net-inflow to GDP)	World Bank (2023)
INF	This is used to capture the general price level.	CBN 2023
EXCH	Exchange rate (measures the rate of naira to dollar).	CBN 2023
GDPGR	Growth rate of GDP	World Bank (2023)

Source: Compiled by the Researcher (2025)

Method of Analysis

This paper utilized the Autoregressive Distributed Lag (ARDL) technique, introduced by Pesaran and Shin in the late 1990s. The ARDL technique is particularly useful for analyzing the dynamic relationships between variables. The method of analysis starts with the stationarity test of the variables to ascertain their reliability for the regression estimation. When the different orders of integration are known, the next procedure is conducting a bound test for co-integration. And should co-integration exist, the ARDL error correction model is estimated where the speed of transmission will be determined.

Presentation and Interpretation of Results

Descriptive Analysis

Table 2 presents the descriptive statistics of the data used in the study, showing the number of observations, mean, maximum and minimum values of the variables.

Table 2: Descriptive Analysis

Variables	Mean	Max.	Min.	Std.dev.	Skewnes	Kurtosis	J-B	Prob.
HCEX	2666.54	52453.03	9162.6	14047.	0.540	2.849	3.712	0.156
REM	2.8944	8.333	0.004	2.533	0.272	1.721	3.138	0.208
FDI	1.314	4.282	-0.039	0.945	0.844	3.689	5.409	0.066
INF	19.253	72.835	5.388	16.999	1.792	5.022	27.521	0.000
GDPGR	4.1739	15.329	-2.035	3.767	0.514	3.577	2.2631	0.322
EXCH	136.49	468.64	0.893	129.49	0.984	3.127	6.326	0.042

Source: Authors computation, (2025)

The mean value of household consumption expenditure (HCEX), remittance (REM), FDI, inflation (INF), GDPGR and exchange rate (EXCH) for the period covered in the study is 2666.54, 2.8944, 1.314, 19.2531, 4.173 and 136.49 respectively. The standard deviation for HCEX, REM, FDI, INF, GDPGR and EXCH are 14047.79, 2.5339, 0.9452, 16.9991, 3.7679 and 129.49 with household consumption expenditure and exchange rate having higher standard deviation than others which indicates more instability of household consumption expenditure followed by exchange rate and less instability of FDI. All the variables are skewed to the right. Also, the hypothesis of the Jarque-Bera statistics is rejected for inflation and exchange rate since the probability of the Jarque-Bera for the two variables is significant; however, the Jarque-Bera statistics is not rejected for other variables. Thus, signifying that household consumption expenditure, remittance, FDI and GDP growth rate are normal distribution and evenly distribution for the variables.

Table 3: The Correlation Matrix

Variables	HCEX	REM	FDI	INF	GDPGR	EXCH
HCEX	1.000					
REM	0.785	1.000				
FDI	-0.208	0.144	1.000			
INF	-0.365	-0.367	0.185	1.000		
GDPGR	0.033	0.068	0.226	-0.322	1.000	
EXCH	0.793	0.665	-0.302	-0.265	-1.121	1.000

Source: Authors computation, (2025)

Table 3 shows the correlation matrix of the variables included in the study. The findings show that the regressors are not strongly correlated, with none exhibiting a correlation coefficient of 0.8 or higher. Therefore, there is no indication of multicollinearity among the regressors in the estimated models, with the highest coefficient being 0.7932.

Unit Root Test Result

Table 4 present the order of integration of the variables used in the estimation. The ADF suggest that three of the variables (FDI, INF and GDP growth rate) are stationary at levels, while the remaining variables (HCEX, REM and EXCH) were not stationary at levels as there is no rejection of the null hypothesis of non-stationarity. Thus, the unit root test suggesting mixture of I(1) and I(0) variables.

Table 4: ADF Unit Root Test for the series in levels and fist difference

	Level		1st difference		Result
Variable	ADF stat	5 % critical value	ADF Stat	5 % critical value	Remark
HCEX	1.768	-1.950	-8.166	-2.943	I(1)**
REM	-0.539	-1.949	-6.208	-1.950	I(1)**
FDI	-3.821	-2.941	-	-	I(0)**
INF	-1.981	-1.952	-	-	I(0)**
GDPGR	-4.149	-2.941	-	-	I(0)**
EXCH	5.084	-1.949	-3.916	-2.943	I(1)**

Source: Authors computation (2025); ** (stationary at 5%).

The stationary test in Table 4 was followed by the bound test showing the long-run relationship among the variables as shown in Table 5

Bound Test (cointegration test)

Table 5 presents the analysis of cointegration, using the ARDL bounds technique.

Table 5: Bound Test (cointegration test)

Test –Statistic		Critical Value Bounds			Remark
F-Statistics	K	Sig. level	Lower Bound	Upper Bound	
7.819678	5	1%	3.06	4.16	Co-integrated
		5%	2.39	3.38	Co-integrated
		10%	2.08	3.00	Co-integrated

Source: Authors computation (2025)

The calculated F-statistics as reported in Table 5 revealed that there is a long run equilibrium relationship amongst the variables when price of food items is the dependent variable because its F-statistic (7.819678) is greater than the upper-bound and lower critical value at 5% significance level. This implies that the null hypothesis of no long run relationships among the variables is rejected.

Estimated ARDL Result

Table 6: Method- ARDL-ECM Short and Long Run Estimates

Dependent Variable: HCEX

Error Correction Estimates

Variables	Coefficient	Std. Error	T-statistics	Probability
D(LHCEX(-1))	1.153857***	0.153290	7.527269	0.0001
D(LHCEX(-2))	1.412835***	0.142729	9.898708	0.0000
D(LHCEX(-3))	1.299839***	0.164925	7.881415	0.0001
D(REM)	0.081112***	0.011422	7.101285	0.0002
D(REM(-1))	-0.059947***	0.009830	-6.098190	0.0005
D(REM(-2))	0.004081	0.009317	0.438040	0.6746
D(REM(-3))	-0.075227***	0.010555	-7.127063	0.0002
D(FDI)	0.094932**	0.019464	4.877286	0.0018
D(FDI(-1))	-0.259123***	0.031749	-8.161574	0.0001
D(FDI(-2))	-0.277917***	0.033958	-8.184036	0.0001
D(FDI(-3))	-0.057831**	0.015492	-3.732977	0.0073
D(GDPGR)	0.007673	0.005757	1.332734	0.2244
D(GDPGR(-1))	0.059724***	0.006593	9.058924	0.0000
D(INF)	-0.013910***	0.001655	-8.406088	0.0001
D(INF(-1))	0.032386***	0.003263	9.926613	0.0000
D(INF(-2))	0.019940***	0.002379	8.380311	0.0001
D(INF(-3))	0.018783***	0.002065	9.098117	0.0000
D(EXCH)	-3.46E-05	0.000585	-0.059192	0.9545
D(EXCH(-1))	-0.006204***	0.000873	-7.108864	0.0002
D(EXCH(-2))	-0.003812***	0.000694	-5.492431	0.0009
D(EXCH(-3))	-0.005077***	0.000694	-7.316049	0.0002
CointEq(-1)*	-0.504518***	0.149221	-10.08245	0.0000
R-squared	0.948331			
Adjusted R-squared	0.864864			
Durbin-Watson stat	3.135869			

Long-Run Estimates				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
REM	0.079272	0.028838	2.748869	0.0286
FDI	-0.000647	0.105057	-0.006155	0.9953
INF	-0.030191	0.005306	-5.690305	0.0007
EXCH	0.001547	0.000425	3.637634	0.0083
GDPGR	-0.071597	0.023030	-3.108920	0.0171
C	10.54785	0.135767	77.69081	0.0000

Source: Authors computation (2025) using E-views

The long-run result in table 6 shows that remittance inflow coefficient (0.079272) has a significant positive impact on household expenditure, this implies that a 1-unit increase in remittance inflow leads to a 0.0793-unit increase in household consumption expenditure. Also, foreign direct investment coefficient (-0.000647) showed an insignificant negative effect on household consumption expenditure, meaning that an increase in foreign direct investment slightly decreases household consumption expenditure, although the effect is negligible given the 0.9953 insignificant probability value. Similarly, Inflation also showed a significant and negative effect on household consumption expenditure, implying that a 1-unit increase in inflation decreases household consumption expenditure by 0.0302 units. Also, exchange rate (EXCH) with coefficient of 0.001547 showed a positive and significant effect on household consumption expenditure which implies that a 1-unit increase in the exchange rate positively affect household consumption expenditure by 0.0015 units. GDP Growth Rate showed a significant and negative impact on household consumption expenditure given that the coefficient is -0.071597 and probability value is 0.0171, implying that a 1-unit increase in GDP growth rate leads to a 0.0716-unit decrease in household consumption expenditure. The R-squared with of 0.948331 indicates that approximately 94.83% of the variation in household consumption expenditure is explained by the independent variables. From the Durbin Watson value of 3.135869 it shows the absence of autocorrelation.

Post-Estimation Checks (ARDL Diagnostic Test)

The ARDL result as in table are hereby validated in this section

Table 7: Results of ARDL Diagnostic Checks

Tests		Outcomes	
		Coefficient	Probability
Breusch-Godfrey-Serial-Correlation Test	F-stat.	5.69468	0.1156
Heteroscedasticity-Breusch-Pagan-Godfrey Test	F-stat.	0.823971	0.6707
Normality Test	Jarque-Bera	0.351032	0.8390

Source: Author's Computation Using EViews-10 (2025)

Breusch-Godfrey serial correlation test result F-stat. in table 7 with coefficient of 5.69468 and probability value of 0.1156 which is less than 5 % level of significant signifying the absence of serial correlation. While the F-stat. of 0.823971 for heteroscedasticity-Breusch Pagan Godfrey test while the probability test is 0.6707 implying that there is absence of heteroscedasticity within the model. The normality test result shows that the residuals are normally distributed.

Stability Test (CUSUM and CUSUM Square Test)

Figure 1: CUSUM test at 5%

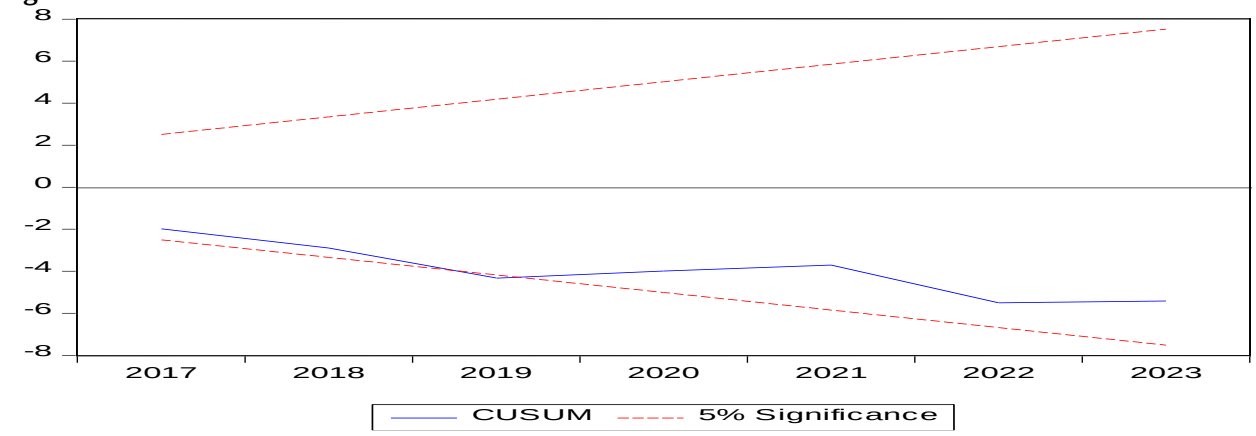
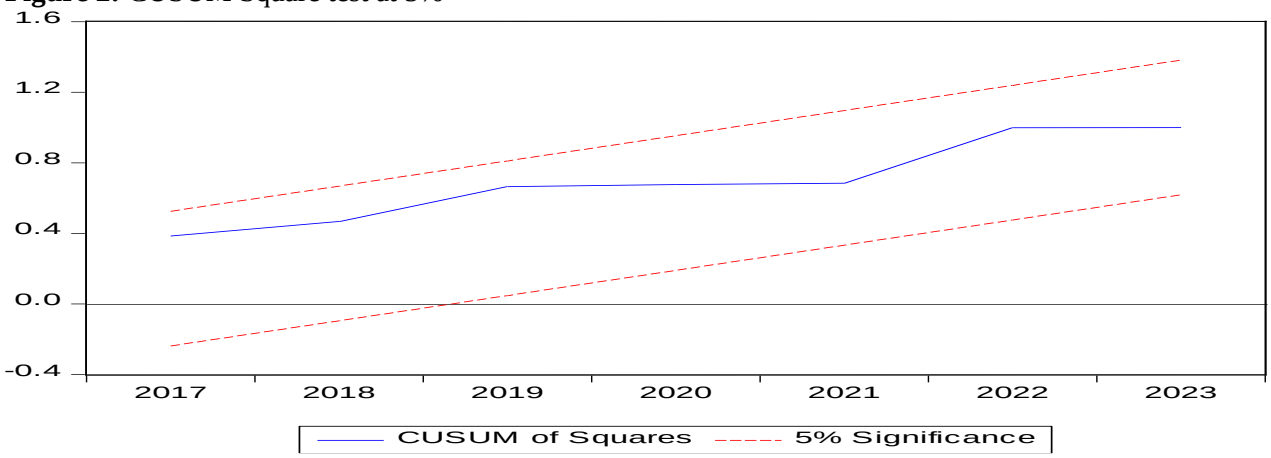


Figure 2: CUSUM Square test at 5%



Source: Authors computation (2025)

Finally, the CUSUM and CUSUM square tests were conducted to assess the stability of the long-run parameters of the model proposed by Borensztein et al. (1998). This methodology has also been utilized by Pesaran (1997), Mohsen et al. (2002), and Suleiman (2005) to evaluate the stability of long-run coefficients. The results from Figures 1 and 2 indicate that the CUSUM and CUSUM Square tests did not cross the critical boundary, establishing the stability of the long-run coefficients at a 5% significance level and confirming the long-run relationships among the variables.

Discussion of Findings

The paper focuses on the relationship between remittance inflow and household consumption expenditure in Nigeria. The study made the following findings. The study found that remittance has a positive significant effect on household consumption expenditure in Nigeria. The study also found that inflation is a strong macroeconomic variable negatively affecting household consumption expenditure in Nigeria. Table 6 revealed the ARDL results of the study. From the result, current coefficient of remittance and FDI have positive and significant effect on household consumption expenditure in Nigeria while a percentage increase in remittance will lead to a 0.08% increase in household consumption expenditure in Nigeria. Also, inflation has a negative significant effect on household consumption expenditure in Nigeria; a percentage increase in

inflation reduces household consumption expenditure in Nigeria by 0.018%. Thus, the result addressed the objective of the study and validated the hypothesis that personal remittance has a significant positive effect on household consumption expenditure in Nigeria. This result is expected since the income of most households is boosted by personal remittance transfers from abroad which also leads to increase in their consumption expenditure. The outcome of this result was supported by the results of (Ibrahim, et al. 2024), who reported a significant positive effect of remittance on household consumption expenditure in Nigeria and (Makina, 2024) who also found a significant positive effect of remittance on household consumption expenditure Lesotho in the short-run. Also, the result of (Nasrin., et al. 2024) give credence to the findings of this study by revealing that personal remittance positively and significantly affects human and gender development in Asia

Conclusion and Recommendations

In conclusion, as efforts are made to revive the Nigerian economy, boosting aggregate demand is important to encourage output and overall growth. As a result, efforts that will lead to boosting aggregate demand via personal remittance are needed in the country. The study therefore, concludes that as remittances from abroad are becoming major sources of foreign financial inflows, harnessing the drivers of these remittance inflows is vital for improvement in household consumption expenditure and overall wellbeing in Nigeria ravaged by high poverty rate. Therefore, the following recommendations were raised from the research findings. The study therefore recommends that to boost remittance inflow from abroad for improvement in welfare amidst advancement in digital technologies, Nigeria should reduce taxes or charges on remittances and their channels of transfers. This will be followed by improvements in the financial and payment system digital infrastructures that are accessible to the Diasporas and the domestic receivers, thereby boosting remittance inflows in Nigeria, which will lead to improvement in household consumption expenditure and aggregate demand. Given the potential for remittance inflow to boost Nigeria's economic growth, the Federal Government should formulate and implement supportive policies aimed at directing remittances into profitable investments.

Declaration: The authors declare that this manuscript is original, has not been published before, and is not currently being considered for publication elsewhere.

Acknowledgment: The authors acknowledge the God for the gift of knowledge and Journal of Social Sciences and Management for their input in spreading knowledge. We also thank our colleagues for their valuable insights and support during the preparation of this manuscript.

Funding: N/A

Conflict of interest: The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Ethics approval/declaration: N/A

Consent to participate: N/A

Consent for publication: All participants agree.

Data availability: The data used in this study was sourced from the Central Bank of Nigeria and World Bank (2023) and is publicly available.

Authors' contribution: Mohammed Musa Adamu: Conceptualization, writing—original draft, and analysis. Obumneke Ezie Ph.D.: Editorial input, manuscript structure, and review.
Aigbedion Marvelous Ph.D: Guidance in data analysis and methodology

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