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DOES REMITTANCES ACTUALLY IMPROVE THE WELFARE OF NIGERIAN'S HOUSEHOLDS?

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ABSTRACT
The paper employed ARDL regression method to investigate the impact of remittances on the welfare of average Nigeria household for the period 1986–2022. The results show that remittances increases household consumption expenditure in the shortrun, reduces the rate of inflation both in the shortrun and the longrun. However, the result shows negative effect of remittances on the household welfare both in the shortrun and the longrun when measure as real consumption through interaction of inflation and household consumption. These findings suggest that the remittances inflow increases the cash available to the household for consumption but not the welfare of the household in Nigeria.
Key words: Remittances, inflation, regression, household, consumption
JEL Classification: F24, P24, C22, D1, E21

1. INTRODUCTION
Foreign capital has continued to play a significant role in financing both consumption and investment in developing economy. The increase in the volume of citizenry flying abroad for a greener pastures has also enhanced ever increasing volume of the inflow to the developing economy. Remittance is the only foreign capital inflow that goes directly from individuals to the households. According to the World Bank, it comprises of personal transfer and compensation of employees who are migrants from one country to another. The recipients expend this transfer on consumption of varieties of needs in terms of food security, health and education to improve their welfare and savings for future consumptions while very few also invest in small and medium scale enterprises. Households now see sponsoring members abroad especially to America, Europe and Arab Gulf as opportunity to expand or diversify their income. In developing countries as a whole, remittances formed the second largest foreign capital inflow after Foreign Direct Investment (FDI) while in Nigeria it has overcome Foreign Direct Investment (FDI) to be the largest. In 2022, Nigeria is the second largest recipient of remittance inflow in Africa with about 37.88% next to Egypt with about 53.31% of the total inflow of about 53 billion US dollar to the region. Despite the fact that, a large sunk of the inflow passed through informal channels which could not be accounted for, remittance inflow to Nigeria was about 20.13 billion US dollar which was 4.3% of the total income of the country in the year 2022 (WDI 2023). The positive trend of the volume of the inflow of remittances and its resilience have attracted the policy makers as well as researchers on its effectiveness and efficiency in the economy. Specifically, how it alleviates the suffering of the households and improve the welfare, World Bank (2006) report on International Migration and Development

Research Program showed that remittances "reduces poverty directly by increasing income of the recipient, an indirectly through its effect on growth, exchange rate, inflation and access to capita". So also World Bank (2016) observed that it provides welfare package in form of school financing, reduction of child labour and funding of health of the family members. Slobodan (1986) was of the opinion that the welfare effect of remittances extend beyond the recipient only if the flow of remittances exceeds a certain critical amount, the remaining residents benefit from migration even if they do not receive any of the remittances themselves.

Overall effect of remittances on welfare in an economy is not sacrosanct, it depends on a host of domestic factors, the direction of the inflow whether consumption or investment and empirically a measure of welfare and in this respect its ambiguity is consistent with the empirical evidence from the existing literature. While some find a positive relationship (Obiakor et al., 2021, Eke and Eke 2023), others find a negative or no relationship (Alex et. al. 2021, Aliu and Osaretin, 2022, Ali and Adahama, 2022)

Moreover, remittances compensates for the loss of active labour force, most of which are trained with the resources of the country with the expectation that they will contribute to growth of the economy through their services. Freedom of movement as enshrined in the fundamental human right permits such movement except there is a bond between the country and the migrants. In order to attract the compensation for the loss of professionals through more inflow of remittances, the Central Bank of Nigeria (CBN) introduced incentive policies to encourage the migrants to remit part of their income into the economy of the country. In 2020, the CBN introduced a bonus of five Naira on every dollar remitted back to the country. It also allows the beneficiaries to receive the remittance in foreign currency instead of the usual local currency as a compensation for the remittances. In spite of the large inflow of remittances to Nigeria, poverty rate is still very alarming among the households who are direct beneficiaries of the inflow. About 40.1 Nigerians are estimated to be living the below poverty line in 2018 (World Bank 2023) while at the threshold of $1.9 a day in Nigeria, the estimated people living in extreme poverty was expected to increase to about 93.7 million in 2025 from 88.4 in 2022 and 86.7 in 2021.(Statista, 2024). In view of this, this paper explores the effect of the remittance inflow on welfare of the households in Nigeria by considering both direct channel and the indirect channels by which remittances mitigate poverty in Nigeria.

Apart from this introduction, the remaining discussion is organized into four sections. Section 2 briefly discuss theoretical and empirical issues on the effect of remittances on welfare. Section 3 highlights the methodology adopted while section 4 discusses the empirical results. The final section contains the conclusion.

2 LITERATURE REVIEW

2.1Theoretical Literatures

As the world becomes global village, Lewis theory of development as contained in its structural transformation of subsistence economy to more organize and developed one applies. It is assumed in the theory that economy consists of a traditional and modern sectors. In a globalized village, the developing countries portray traditional sector while the developed economy is characterized with modern sector. The developing countries are characterized with overpopulation majorly primary producers with zero marginal labor productivity and low wages while the developed economies are characterized with high-productivity modern urban industrial sector and relatively high wage into which labor from developing countries gradually migrated. This migration continues until what he refers to as surplus labour is absorbed probably at turning point when there is uniformity in the global wages. Thereafter, labour can only be attracted from developing countries only at a higher cost of production because the marginal product of labor in developing countries is no longer zero.

The motives behind the migration has been explicitly discussed by theories, the Neo-classical championed by Hicks (1932), Lewis (1954) and Harris and Todaro (1970) reveals the motives behind the migration as primarily the migrant welfare and thus towed Lewis line that real wage differences at international labour market is the driving force of migration. On this, Lucas and Stark (1985) highlighted three motives behind migrants' remittances as 'altruism, self-interest and enlightened self-interest'. Self-interest and enlightened self-interest motives were for the benefits of the migrant remitting the money as collateral for their errands in form of investment in their home country, erection of structures and diversifying their savings. Azam and Gubert (2006) perceived that the decision of the migrant to migrate in Africa is mostly collective decision of the households as a means of expanding or diversifying the household's income. Thus, the altruistic motives behind remittances suggest that the migrant remit funds back home for friends family, relatives and organization as a return of obligation on the investment made by the family, friends and relatives on the remitters, as well as new investment on friends, family, relatives and organization like churches and mosques without any formal obligation.

Economic welfare is broadly measured by current and lifetime consumption and the resources that enable the consumption (IMF, 2020). While the current consumption approach considers the utility generated by market and near-market goods and services consumed by households, the sustainable consumption approach considers the stream of consumption that will be attainable in the future. Consumption behavior of individual household can be explained by four theories, the foremost is Keynes absolute income hypothesis (Meynard Keynes, 1936), which postulated that 'men are disposed, as a rule and on the average, to increase their consumption as their income increases, but not by as much as the increase in their income'. This was debunked by Duesenberry (1946) and Modigliani (1949) in their relative income hypothesis, which perused consumption in cross-section version as depending on its income relative to the income of other households and a time-series version depending not only on its current disposable income, but also on current income relative to past levels.

Next is the modern consumption theory consisting of the life cycle hypothesis of Franco Modigliani and Milton Friedman permanent income hypotheses. The two models emphasized consumption smoothing, their major difference is that the life cycle hypothesis emphasized a finite lifetime whereas the permanent income hypothesis stressed an indefinite horizon of variations in income. The life cycle hypothesis tied consumption to life-time income rather than the individuals current income, individuals transfer income from one phase of life through saving and de saving to smoothen consumption while the permanent income hypothesis identified both income and consumption to consist permanent and transitory part, he argued that both permanent and transitory consumption are independent of transitory income and thus consumption was dependent on permanent income.

2.2 Empirical literature

Empirical literatures are replete on the effect of remittances on economic growth and macroeconomic stability of countries of the world, they mostly agreed that remittances affect the growth of the economy positively in line with the dual gap theory by Chenery and Strout (1966). For instance, Eke and Eke (2023) founds a positive impacts of remittances on per capital GDP in its cross examination of its impact relative to investments in human and physical capital as a source of per capita GDP growth in Nigeria. However, Ali and Adahama (2022) contrary to this, found a negative effect of remittances on economic growth, and a bi directional causality between them in Nigeria. So also, Aliu and Osaretin (2022) found a negative effect of remittances on economic development when measured with real GDP per capita. Mustapha and Ganiyat (2023) revealed that migrant remittances was among the variables determining financial inclusion in Nigeria.

Several studies have delved into the relationship between remittances and welfare in different economy, their findings portrayed remittances as welfare enhance instrument. (Acosta et al. 2007; for Latin America, Taylor et al., 2005 for Mexico, Semyonov and Gorodzeisky 2008, for the Philippines, and Jongwanich (2007) Asia and Pacific economies). There are other studies on sub-Saharan African as well as cross sectional studies that aligned with the effectiveness of remittance in reducing poverty across the world. For instance, Adams and Page (2005) also supported that remittances reduces poverty in its study on 71 developing economies. Anyanwu and Erhijakpor (2010) found strong evidence that remittances reduced poverty in Africa countries between 1990 and 2005 in a panel data analysis. Imai et al., (2014) also arrived at conclusion that remittances reduced the level of poverty in the Asian countries. Obiakor et al., (2021) estimated the effect of inward and outward remittances on welfare using data on 17 SSA countries including Nigeria from 2005 to 2019, with welfare proxied as household consumption expenditure using the system-GMM estimation approach. It found that the inward remittances exerted a positive and significant effect on consumption, while the effect of outward remittances was negative and also significant. He however, found that the effect of inward is more pronounced than the outward.

Berrak et.al, (2018) categorized the remittance earners in Philippines into hand-to-mouth wage earners or credit-constrained entrepreneurs and analyzed the possible effect of remittances inflow on these two categories. It found that the effects of remittances are inherently contractionary if they accrue to the hand-to-mouth wage earners, and expansionary when they accrue to the credit-constrained entrepreneurs. He concluded that welfare gains result when the distribution of remittances is skewed towards entrepreneurs.

Takeshi et.al., (2022) utilized detailed household (HH) survey data from rural areas of Nepal, to investigate whether rising HH incomes, mainly through remittances, mitigated the damages caused by the 2015 devastating earthquake to houses. The result found that the inflow of remittances do not reduce the effect of natural disaster, it suggests that to mitigate ‘natural disasters’, increase in household incomes through remittances must be matched with improved social infrastructures.

Alex et.al. (2021) investigated the effect of remittances and financial development on poverty alleviation of both male and female in 44 sub-Saharan African SSA countries from 2010 to 2019 using GMM technique. It found that remittances increase poverty of both sex while financial development reduces poverty of both sex in Sub-Saharan Africa.

Akobeng (2023) assessed the interactive effect of quality governance and financial institutions on the nexus between remittances and poverty in sub-Saharan Africa. The author found a positive effect of remittances on poverty alleviation directly through entrepreneurship, innovation, and job creation, but the effect is more pronounced with robust financial sector and good governance.

The specific studies on Nigeria have also come out with the conclusion that remittances has positive effect at reducing the level of poverty in Nigeria at least in the shortrun. William et al.

(2011) employed poverty and Gini decomposable techniques to explore the link between remittance inflows, poverty and income inequality in Nigeria at geo political zone level. The study finds evidence to support the claim that remittances mitigate the effect of poverty in all the geopolitical zone in Nigeria. Salman (2016) discovered that the recipient of remittances are better than non-recipient household by about 92.3% per capital income in Nigeria using PSM and ESR models on data from Migration and Remittances Household Surveys conducted by the World Bank in 2009 and 2010. A case study of Nigeria by Ewubare and Okpoi (2018) on both the inflow and outflow of remittances found a positive effect of remittances inflow on poverty reduction in the shortrun only while the outflow has no effect both in the shortrun and the longrun. Agbutun (2021) investigated the effect of remittance and VAT on household welfare in Nigeria between 2000 and 2007 using quarterly data. He found that both remittance and VAT significantly influenced Household Consumption expenditure by 12 and 15 percent respectively. It also showed that remittance reduced poverty by 10 percent while using poverty head count as a measure of welfare. Ozigbu (2020) employed ARDL to explore the development effect of cross-border capital flows with focus on poverty incidence using poverty headcount as a measure of poverty in Nigeria. It discovered that 1% increase in migrant's remittances leads to 0.25% reduction in poverty rate. Ojapinwa (2022) examined the effect of diaspora remittances on SMEs using robust ordinary least square method ROLS. He discovered the positive effects of remittances on SME performance in Nigeria. Ashagidigbi et al., (2022) seeks to determine whether the access to remittance improves welfare status of households in Nigeria. He employed descriptive statistics, Multidimensional Welfare Index (MWI) and Tobit regression model. It affirmed that the welfare status of households receiving remittance is higher than the non-remittance recipients. Nnagbo (2023) employed nationally representative household-level data to uncover the influence of remittances on household welfare in Nigeria It also interacts employment status and the remittance recipient to ascertain whether it amplifies or weakens the impact of remittance on household earning power. The result obtained showed that remittance has a significant positive impact on household food consumption. It also showed that both employed and unemployed persons increase their earning power through the receipt of remittance but the impact is higher for persons who are not employed

the extant literature have explored the effects of remittances on development outcomes such as economic growth, poverty, and income inequality in Nigeria and Sub Saharan Africa, there remain some important research gaps in the literature. First, previous studies have not examined the real consumption of the household as a measure of welfare. We intend to contribute to the extant literature by reconsidering the definition of welfare beyond increase in consumption expenditure but real consumption in departure with extant literature that measured welfare as the nominal income expended on consumption by the households. Measuring welfare as an increase in consumption expenditure might be deceptive in an economy bedeviled with price instability as Nigeria. The study also determined the behavior both in the shortrun and the long run to ensure the sustainability of the welfare effect of the remittances if at all it exists.

3 METHODOLOGY

In line with the extant literatures, we adopt household consumption expenditure as a primary measure of welfare of the individual members of the household. In addition, considered reduction in inflation rate as an alternate measure of welfare and check the robustness of the two measures by employed the real consumption measure as an interaction between consumption expenditure and inflation rate as an alternative measure of welfare in Nigeria as noted by Oulton, (2004) that a measure of sustainable consumption, must be the deflated by an index of consumption prices.

3.1 Model Specification

Keynesian theory of consumption (Keynes, 1936) postulates that consumption is determined by the current income in its absolute income hypothesis.

$$c = f(y) \quad 1$$

Friedman, (1957) maintained that consumption is a function of permanent income

$$c = f(y_p) \quad 2$$

However, Friedman posited that income consists of permanent income as well as transitory income.

$$y_t = y_{pt} + y_{tt} \quad 3$$

y_{pt} is the permanent income of the household while y_{tt} is the transitory income. Remittances is thus included as the transitory income to the household. This is because it is the foreign capital inflow that was not earned but goes directly to the household and has now become a major source of financing household consumption in Nigeria. Wealth is included as an aspect of sustainable consumption (IMF, 2020)

This study therefore, adopts CBN (2013) framework modification of Keynesian model accommodating variables that are suitable and peculiar to Nigerian economy as follows;

$$C_t = f(y_{pt}\ y_{tt}\ \Pi_t\ \ i_t,\ w_t) \quad 4$$

The implicit model in equation 4 specified consumption as a function of permanent income (y_{pt}), transitory income (y_{tt}), deposit rate (i_t), inflation (Π_t) and wealth (w_t),

The explicit model with the extension to accommodate more suitable variables is presented as;

$$C_t = \beta_0\ inc + \beta_1\ inf + \beta_2\ exc + \beta_3\ wlt + \beta_{4,}int + \beta_5 rem + \varepsilon_0 \quad 5$$

Exchange rate is included because the economy largely depends on imported goods and exchange rate determines price of imported goods. Therefore, household consumption (C_t) is specified as a function of income (inc), inflation rate (inf), real exchange rate (exc) all share index as a proxy for wealth (Wlt), real interest rate (int) and remittances (Rem). In the estimated model, all other variables were logged except the rates which were the interest rate, exchange rate, and inflation rate.

Emulating the work of Perasan and Shin (1999) and Perasan *et al.*, (2001), we specifically employed Phillips-Perron test (PP) as a robust check on Augmented Dickey Fuller (ADF) to ascertain the order of stationary (d) of any of the variables is not greater than one.

Equation 5 presents the ARDL model combining both shortrun and longrun model

$$\Delta C_t = \alpha_0 + \sum_{i=1}^{p} \alpha_{1i}\Delta inc_{t-i} + \sum_{i=0}^{q} \alpha_{2i}\Delta inf_{t-i} + \sum_{i=0}^{r} \alpha_{3i}\Delta exc_{t-i} + \sum_{i=0}^{s} \alpha_{4i}\Delta wlt_{t-i} + \sum_{i=0}^{u} \alpha_{5i}\Delta int_{t-i} + \sum_{i=0}^{u} \alpha_{6i}\Delta rem_{t-i} + \lambda_1 inc_{t-1} + \lambda_2 inf_{t-1} + \lambda_3 exc_{t-1} + \lambda_4 wlt_{t-1} + \lambda_5 int_{t-1} + \lambda_6 rem_{t-1} + \mu_t \quad 6$$

The first part consisting summation notation ($\sum$) measured the shortrun while the latter part measured the longrun apart from μ_t which measured the idiosyncratic error term at time t in a single equation.

Separating this model into shortrun and longrun, The short run model estimation is presented as follows in equation 7;

$$\Delta C_t = \theta_0 + \sum_{i=1}^{p} \theta_1 \Delta inc + \sum_{i=0}^{q} \theta_2 \Delta inf_{t-i} + \sum_{i=0}^{r} \theta_3 \Delta exc_{t-i} + \sum_{i=0}^{s} \theta_4 \Delta wlt_{\ t-i} + \sum_{i=0}^{u} \theta_5 \Delta int_{t-i} + \sum_{i=0}^{u} \theta_5 \Delta rem_{t-i} + \varphi_1 ecm_{t-i} \quad 7$$

$\varphi_1$is the speed at which the model of adjust from shortrun to longrun. While the longrun model is presented thus in equation 8,

$$C_t = \beta_0 + \sum_{i=0}^{q} \beta_{1i} inc_{t-1} + \sum_{i=0}^{r} \beta_{2i} inf_{t-1} + \sum_{i=0}^{s} \beta_{3i} exc_{t-1} + \sum_{i=0}^{u} \beta_{4i} wlt_{t-1} + \sum_{i=0}^{u} \beta_{5i} int_{t-1} + \sum_{i=0}^{v} \beta_{7i} rem_{t-1} + \mu_t \quad 8$$

3.2 Data and Data Sources

We employed annual data from 1986 to 2022 to estimate the model in equation 4. The data on remittances, real effective exchange rate and real inflation were obtained from the World Development Indicators database (World Bank). Household consumption, national income and all share index were sourced from the Statistical Bulletin 2023 edition (Central Bank of Nigeria). Household consumption, all share index and remittances were used in their natural logarithmic form while inflation rate, interest rate and exchange rate were used in their natural form.. Table 1 shows the definitions of variables and data sources.

Table 1: Definition of Variables and data sources

Variables	Definition	Source
HC	Household consumption	CBN
Rem	Personal Remittances received local currency	WDI
wlt	All share index on the Nigeria stock exchange	CBN
Inf	Inflation, consumer prices (annual %)	WDI
Int	Real interest rate	WDI
Exch	Real effective exchange rate (2010 = 100)	WDI
Inc	GDP at 2010 Constant Market Prices	CBN

Source: Authors computation 2024

4.RESULTS AND DISCUSSION OF FINDINGS

Table 2 presents the results of Augmented Dickey-Fuller (ADF) and Phillips-Peron (PP) unit root tests. The ADF were tested at maximum of lag eight and the results of selected lags base on Schwarz information criterion were as presented in the table. The PP bandwidths were selected based on Newey-West automatic bandwidth selection and Bartlett kernel. The results of both ADF and PP showed that LHC, LREM and LY were not stationary at level while EXCH, INF, LWLT and INT were stationary at levels in both ADF and PP. However, at first difference, LHC, LREM, LINC and other variables became stationary except INF in the ADF test while all the variables were stationary using PP test.

Table 2: Unit root test

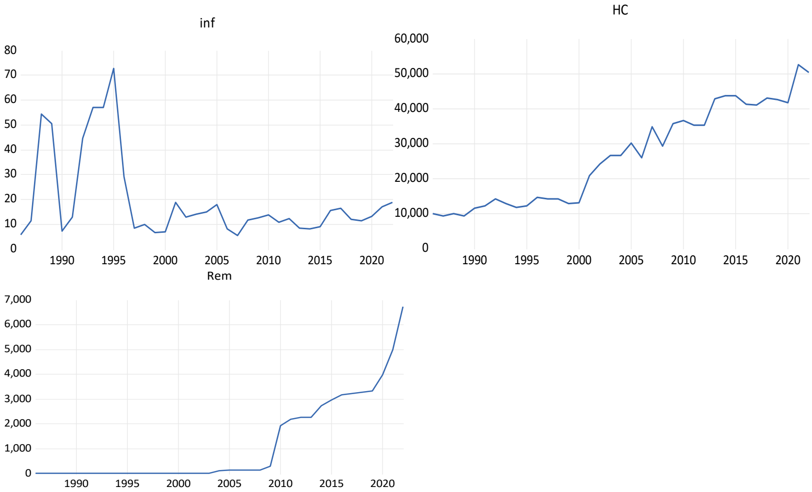
	Augmented Dickey Fuller Test		Phillips Peron Test	
Series	Prob.	Lag	Prob.	Bandwidth
Exch	0.00	0	0.00	2.0
Inf	0.00	7	0.05	2.0
LHC	0.81	0	0.88	31.0
Lrem	0.77	0	0.77	3.0
Lwlt	0.02	2	0.03	6.0
Linc	0.83	1	0.86	4.0
Int	0.01	0	0.01	2.0
D(exch)	0.00	0	0.00	4.0
D(inf)	0.09	7	0.00	20.0
D(lhc)	0.00	0	0.00	14.0
D(lrem)	0.00	0	0.00	1.0

D(lwlt)	0.00	1	0.00	1.0
D(linc)	0.01	0	0.01	1.0
D(int)	0.00	2	0.00	18.0

Source: Authors computation 2024

Figure 1 presents the graph of inflation rate, remittances inflow and household consumption. The graphs show a positive slope of both the remittances and household consumption. It shows that both the remittances and household consumption are growing simultaneously as supported by the correlation analysis in table 3. Moreover, the correlation analysis shows a positive and significant relationship between remittances and household consumption. Apart from strong correlation of about 0.85, it shows a probability value of 0.00 which implies it is significant at 1% level of significance. The relationship between the remittances inflow and inflation is negative and insignificant. Negative value of 0.23 and probability value of 0.17 imply a very weak correlation between remittances and inflation rate. Furthermore, the relationship between household consumption and inflation rate is negative and significant with probability value of 0.01.

Figure 1: The relationship between the household consumption and remittances in Nigeria



Source: Authors computation 2024 (WDI Data)

Table 3: Correlation analysis

Series	REM	INF	HC
REM	1.00		
INF	-0.23(-1.41){0.17}	1.00	
HC	0.85(9.50){0.00}	-0.42(-2.71){0.01}	1.00

Source: Authors computation 2024; Correlation (t-Statistic) {Probability}

We conducted ARDL Bound test because the model combined both level and first order variables which necessitated the use of ARDL method. Table 4 presents the result of bound cointegration test for model A, B and C, the F- statistic values of 6.30, 13.26 and 6.00 were above the upper bound of 3.99, 5.69 and 5.76 respectively at 1% level of significance of the critical values. This has the implication that the rejection of the null hypothesis of no cointegration is in order and thus the variables in each models are cointegrated.

Table 4: Cointegration test

Household Consumption Model						
F-statistic	10%		5%		1%	
Value	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
6.30	1.99	2.94	2.27	3.28	2.88	3.99
I(0) and I(1) are respectively the stationary and non-stationary bounds.						

Inflation Model

F-statistic	10%		5%		1%	
Value	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
13.26	2.33	3.52	2.79	4.15	3.98	5.69
F-statistic I(0) and I(1) are respectively the stationary and non-stationary bounds.						

Real Consumption Model

F-statistic	10%		5%		1%	
Value	I(0)	I(1)	I(0)	I(1)	I(0)	I(1)
6.00	2.41	3.52	2.91	4.19	4.13	5.76
F-statistic I(0) and I(1) are respectively the stationary and non-stationary bounds.						

Source: Authors computation 2024

The results of the shortrun model presented in the upper part of table 5 shows that the coefficient of the remittances was significant at 1% level in all the three models. The positive result in household consumption model is consistent with Agbutun (2021), Obiakor (2022) and almost all the previous studies in this direction. This was interpreted that remittances effect on welfare as represented by household consumption was positive and significant in the shortrun. This has the implication that a percentage increase in the remittances inflow would increase the welfare of Nigerian household through increase in their consumption expenditure by about 6% The negative signs the remittances has in the inflation model can however also be interpreted as increase in welfare since a percentage increase in the remittances inflow led to a decrease in the rate of inflation in the shortrun by about 5%.. However, the negative sign displayed by the interaction of household consumption and the rate of inflation could be interpreted as a loss of welfare by the household. A percentage increase in remittances inflow resulted in about 37% loss of welfare as inflation rate has reduced the real consumption of the household in the shortrun. It shows that measuring welfare from household consumption expenditure is inadequate in an unstable economy.

Table 5: Regression Analysis of the models

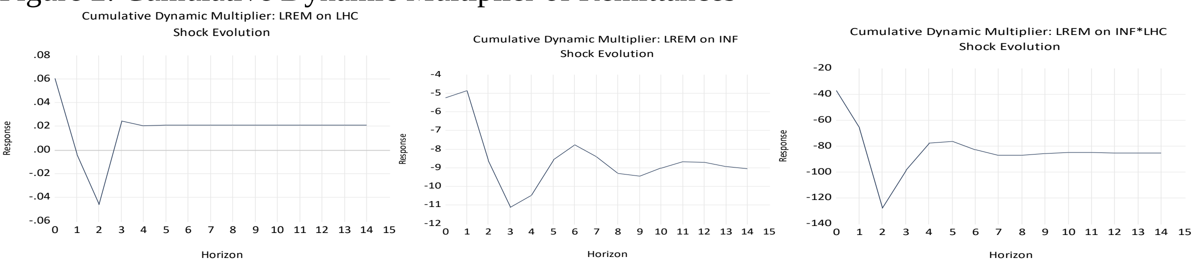
Variable	Household consumption	Inflation	Real consumption
D(inf(-1))	Nil	0.59(7..31){0.00}	Nil
D(lhc)	Nil	-2.9(-0.4){0.69}	Nil
D(inf(-1)*lhc(-1))	Nil	Nil	0.35(4.07){0.00}
D(lrem)	0.06(4.80){0.00}	-5.23(-5.97){0.00}	-37.12(-3.64){0.00}
D(Iinf)	0.00(0.35){0.73}	Nil	Nil
D(EXCH)	Nil	0.15(7.94){0.00}	1.74(7.76){0.00}
D(lwlt)	0.15(4.82){0.00}	Nil	74.28(1.97){0.07}
D(linc)	1.79(6.71){0.00}	-22.12(-1.08){0.29}	-1281.9(-6.32){0.00}
D(int)	-0.00(-0.28){0.78}	-0.7(-7.94){0.00}	-5.32(-5.08){0.00}
CointEq(-1)*	-1.05(-0.860){0.00}	-0.98(-12.77){0.00}	-0.79(-8.06){0.00}
Lrem	0.02(0.95){0.36}	-8.91(-3.72){0.00}	-85.34(-2.25){0.03}
Exch	-3.75E-05(-0.08){0.09}	0.1(1.39){0.18}	1.07(1.36){0.19}
Inf	-0.00(-1.37){0.19}	Nil	Nil
Lw	0.03(0.83){0.42}	14.95(3.34){0.00}	138.15(1.97){0.06}
Linc	0.84(7.36){0.00}	87.51(3.15){0.00}	169.14(1.07){0.29}
Int	-0.01(-1.04){0.32}	0.18(0.41){0.69}	3.16(0.47){ 0.64}
C	0.83(0.61){0.55}	-483.63(-3.05){0.05}	-2613.34(1.32){0.20}
Coefficients (t-Statistic){Probability}			
R-sq and AdjR-sq	0.91, 0.86	0.97, 0.95	0.97, 0.94
Normality; JB(Prob)	5.07(0.08)	1.49(0.47)	1.24(0.54)
Serial corr f(Prob)	2.15(0.15)	0.82(0.51)	2.85(0.11)
Het: F(Prob)	0.36(0.98)	0.33(0.98)	0.88(0.62)

Source: Authors computation 2024

The longrun analysis as shown in the lower part of the table immediately after cointegrating factor displayed that the effect of remittances on the household consumption is not significant in the longrun. The result shows that reduction in inflation as a measure of welfare is significant at 1% level while that of interaction between household consumption and inflation was significant at 5% level of significance. It shows that a percentage increase in remittances inflow reduces the inflation rate by about 9% with implication that welfare is increased by about 9%. However, all these are nominal value, since welfare is a real variable, subjecting household consumption to the actual price of goods and services shows contrary to the popular findings in the previous studies like Agbutun (2021) and Obiakor (2022) that remittances had not positively impacted the household welfare but reduces it by about 85% in the longrun. This can be justified by the fact that most of the remittances inflow were not invested but consumed or saved in an economy with increasing rate of inflation. Also, it was believed in some quarters that remittances as a transitory income discourage productivity as it is disincentive to work.

Fig 2 summarizes the dynamic relationship between remittances inflow to Nigeria and the household welfare. It clearly shows that a shock to the remittances inflow would only have effect not beyond the 3rd horizon on household consumption before it fizzles out. However, in the other two models, a shock to the remittances inflow would have effect on the rate of inflation beyond the 3rd horizon as well as on the real consumption.

Figure 2: Cumulative Dynamic Multiplier of Remittances



Source: Authors computation 2024

The CointEq(-1) is the error correction term which represent the speed of adjustment back to the longrun relationship among variables. The negative signs and significant value at 1% shows that longrun relationship exists among the variables in all the models. The model displayed the R-squared of about 0.91, 0.97 and 0.97, and Adjusted R-squared of about 0.86, 0.95 and 0.94 respectively in model A, B and C. These results confirm the fitness of the models to explain the effect of remittances on the welfare of Nigerian in conjunction with the other selected variables.

The Jarque-Bera normality tests (JB=5.07; prob=0.08) (JB=1.49, prob=0.47) (JB=1.24, prob=0.54) showed that the models were normal and evenly distributed. With the probability values greater than benchmark of 5%. Breusch-Godfrey Serial correlation (F-Stat=2.15; Prob=0.15) (F-Stat= 0.82, prob =0.51) (F-Stat= 2.85, prob =0.11) reported no serial correlations in the models. The probability values are equally higher than 5% benchmark. Breusch-Godfrey Heteroskedasticity test (F-statistic 0.36; Prob. F(18,15).98) (Het Test: F-Stat= 0.33, prob =0.98) (F-Stat= 0.88, prob =0.62) revealed that the models were not homoskedastic. The cusum and cusum of square graph in the Appendix 1 show that the models were stable as the actual graphs lied within the boundary of 5% level of significance.

5. CONCLUSION AND RECOMMENDATIONS

The link between remittances inflow and the welfare of Nigerian has been explored in this study. It was discovered that remittances inflow have considerable positive effect on the consumption expenditure of Nigerian household in the shortrun. The positive effect withered away in the longrun. The results suggest that the remittances inflow benefit was not sustainable considering the negative effects it had at subsequent lags and insignificant effect it has in the longrun. The effect of remittances on the rate of inflation in Nigeria is negative both in the shortrun and the longrun. The result suggests that remittances improve the welfare of the household through its mitigating effect on the rate of inflation. However, when household consumption is interacted with the rate of inflation, remittances has negative effect both in the shortrun and the longrun.

The policy implication of these findings are not far-fetched, the upward value of the inflow and the significant effect on the nominal values of welfare of the households in the shortrun suggests that the problem is not that of the shortage of the inflow. In addition, its negative effect on the real value suggests that positive effect of the remittances on the household consumption expenditure could not translate into the welfare of the households as the prices of goods and services in the economy remain unstable. Price instability in the economy neutralizes the welfare effect of remittances inflow on the household.

This study thus recommend that remittances inflow mobilization policy embarked on by the Central Bank of Nigeria should be sustained to motivate migrant remittance. However, the central bank should also target policy of price stability if this inflow would translate to an increase in welfare. It is also recommended that government should introduce a policy that will encourage the investment of the remittance inflow, such policy of conversion of certain percentage of remittances to bond for future consumption will ensure welfare effect of remittances in the longrun. Moreover, government should intensify effort promoting small and medium scale enterprises to attract investment of the remittances inflow.

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Appendix

Figure 2: Model A Cusum and Cusum of squares graph

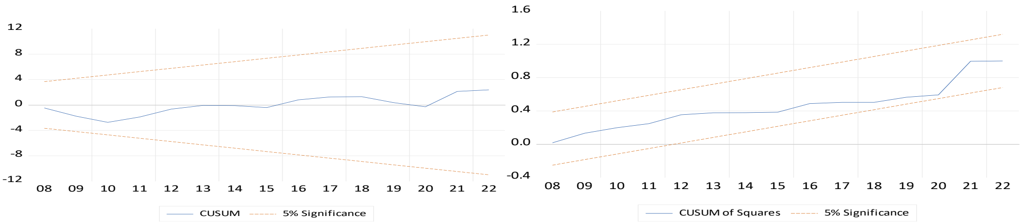

Figure 5: Cusum and Cusum of squares graph

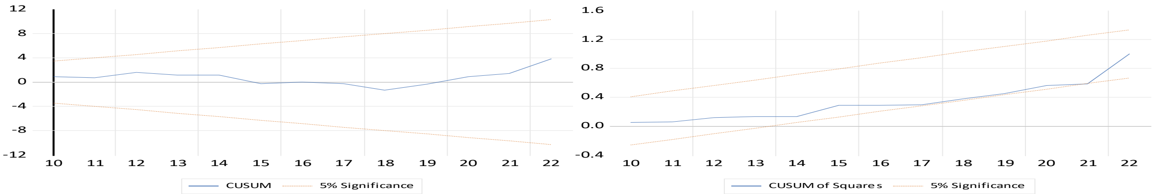

Figure 7: Cusum and Cusum of squares graph