

## FOREIGN AID, REMITTANCES AND HOUSEHOLD WELFARE IN NIGERIA

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### Abstract

This examines the dynamic relationship between foreign aid, remittances and household welfare in Nigeria using annual data from 1986 to 2024. The data for the study were sourced from Central Bank of Nigeria statistical bulletin and World Bank's Development Indicators. The study employed both descriptive statistics and analytical technique of Autoregressive Distributive Lag (ARDL) and Granger Causality Test. The dependent variable is household welfare proxied by GINI coefficient while the explanatory variables include official development assistance (ODA), multilateral aid (MLA), bilateral aid (BLA), technical cooperation grant (TCG), remittances (RMT), GDP per capita (GDPPC), exchange rate (EXR) and consumer price index (CPI). The results of ARDL bounds test establishes a strong long-run relationship between foreign aid, remittances, and household welfare in Nigeria. The results of the first objective reveal that official development assistance (ODA), multilateral aid (MLA), and bilateral aid (BLA) positively and significantly impact household welfare in both short-run and long-run, while technical cooperation grants (TCG) show a negative and insignificant effect in both short-run and long-run. Findings of the second objective show that remittances also exhibit a positive and significant influence on household welfare in both the short and long run. The third objective of the study further reveals bidirectional causality between household welfare and both ODA and TCG, while BLA and RMT exhibit a unidirectional causal effect on household welfare. Also, remittance inflows may prompt increased foreign aid, particularly during crises, highlighting their complementary role in enhancing household well-being.

**Keywords:** ARDL, Foreign Aids, Gini Coefficient, Households' Welfare, Remittances.

### 1. INTRODUCTION

Foreign aid and remittances significantly influence household welfare in Nigeria, though their mechanisms and impacts differ. Foreign aid supports poverty alleviation programs such as cash transfers, education initiatives, and healthcare services, directly enhancing access to essential resources and improving overall household well-being (Onyebuchi & Risikat, 2022; Addae-Korankye, 2019; Asongu & Tchamyou, 2019). Infrastructure development funded by aid, such as roads, electricity, and bridges, further supports household welfare by fostering economic opportunities, improving access to markets, and reducing costs associated with essential goods and services (Bird & Choi, 2019). Similarly, remittances (private monetary transfers from Nigerians living abroad) directly enhance welfare by providing financial support for food, healthcare, education, and housing, which improves living standards and mitigates economic shocks (Nwosa, 2021; World Bank, 2022). However, the effectiveness of foreign aid is often undermined by political instability, corruption, and inefficiencies (Ugwuanyi et al., 2017; Chiara et al., 2018), while remittances face challenges such as fluctuating flows and economic uncertainty. The relationship between these financial inflows and household welfare is

multifaceted, encompassing direct improvements in access to resources and indirect effects through economic growth and inequality reduction. In West Africa, household welfare contributes substantially to GDP growth, with rising investments in education, healthcare, and living conditions (Signe, 2018; Liu et al., 2018). In Nigeria, foreign aid directly influences welfare by funding social safety nets and critical infrastructure that create jobs and improve healthcare access, while remittances provide a steady income stream, particularly for marginalized households with limited access to formal financial services (Onyebuchi & Risikat, 2022; Nwosa, 2021). However, both inflows can have unintended consequences. Inflationary pressures caused by aid or remittance inflows may reduce purchasing power, while unequal distribution of benefits may exacerbate income inequality, leading to disparities in household welfare (Daud et al., 2015). Addressing these challenges requires effective allocation strategies and alignment with Nigeria's development priorities to ensure sustainable impacts on household well-being.

While foreign aid provides essential support for immediate and long-term welfare needs, it risks fostering dependency without corresponding investments in economic self-sufficiency. Remittances, in contrast, often bypass bureaucratic hurdles and offer a more flexible source of financial relief, directly boosting household resilience. This study examines how different forms of aid, including corporate grants, multilateral flows, bilateral flows, official development assistance, and remittances, contribute to household welfare in Nigeria. The focus on rising poverty, income inequality, inadequate healthcare, and poor educational access underscores the importance of developing sustainable strategies to improve household living standards and foster inclusive growth.

In developing nations, foreign assistance and remittances have become essential strategies for promoting welfare and economic growth (Alimi, 2018; Asongu & Nwachukwu, 2017; Ugwuanyi, Ezeaku, & Ibe, 2017; Yiew & Lau, 2018; Nwosa, 2021). This is particularly crucial in Nigeria, where the gross national savings mobilization and tax revenue to GDP ratios, at 23.4% and 8.4% respectively, remain below the global benchmarks of 30% and 12.75% of GDP (International Monetary Fund - IMF, 2023). Low national savings, attributed to low-interest rates, constrain the country's ability to create wealth and reduce poverty (Nelson, 2019; Ayodele, 2021). To address these funding gaps and improve household welfare, foreign aid and remittances are vital for supplementing domestic financing. While foreign aid has traditionally focused on infrastructure, education, and healthcare, remittances provide direct and flexible income support for households, helping them to meet basic needs and invest in long-term development (World Bank, 2022; Statista, 2022). Between 1984 and 2022, Nigeria consistently ranked among the top ten sub-Saharan African countries receiving foreign aid and remittances (World Bank's Development Indicators, 2022; Statista, 2022). Despite these inflows, income inequality remains high at 35.1%, contributing to 88.4 million people living in extreme poverty in 2022 (Statista, 2022; World Bank, 2022). Empirical studies have emphasized that poverty and income inequality negatively affect household welfare, limiting the capacity of foreign aid and remittances to improve living standards (Iorember & Ankor, 2020). Inefficiencies in the utilization of foreign aid, including poor sustainability, inadequate monitoring, and corruption, have further hindered its impact on household welfare (Adeolu et al., 2022; IMF, 2021). While

remittances are often more efficiently utilized by households due to their direct nature, they are also susceptible to fluctuations, which can create financial instability (Nwosa, 2021; Younsi et al., 2019). Effective utilization of both foreign aid and remittances is essential for increasing household purchasing power and enhancing social welfare in Nigeria (Asongu & Ezeaku, 2020; OECD, 2019). Research on the efficacy of foreign aid and remittances in sub-Saharan Africa remains inconclusive, with some studies suggesting limited impact on reducing income inequality and improving household welfare (Tsaurai, 2023; Nosheen et al., 2021). Much of the existing literature fails to disaggregate the effects of aid and remittances from different sources, such as official development assistance (ODA), bilateral and multilateral flows, and technical cooperation grants. Furthermore, methodological limitations and varying time frames studied have led to mixed findings on their impact on welfare (Ghimire, Mukherjee, & Alvi, 2016; Sabra & Eltalla, 2016). This study seeks to bridge these gaps by examining the combined effects of foreign aid and remittances on household welfare in Nigeria, exploring their influence on poverty reduction, income equality, and access to basic services. By addressing these issues, this research contributes to the broader understanding of how financial inflows can be better utilized to achieve sustainable development in Nigeria.

Foreign aid and remittances play a vital role in enhancing household welfare in Nigeria by providing additional resources that support safety nets and social programs. These inflows stabilize the economy, reduce poverty levels, and enable households to meet essential needs such as education, healthcare, and housing. Foreign aid, frequently directed towards human capital development, enhances the quality of life by improving education and healthcare systems. A healthier, better-educated population is more equipped to secure higher-paying jobs, leading to improved household welfare and greater economic stability (Onyebuchi & Risikat, 2022; Nwosa, 2021). Similarly, remittances provide a critical lifeline for families, directly increasing disposable income and fostering resilience during economic uncertainties. Foreign aid also supports the development of crucial infrastructure, such as transportation, electricity, and clean water access, which significantly improves household living standards and consumption choices. For instance, enhanced transportation networks reduce the cost of goods and services, benefiting household budgets. Programs targeting agricultural and rural development further boost household welfare by increasing food production and incomes in rural areas. Such initiatives not only raise rural living standards but also contribute to broader economic growth. Remittances complement these effects by providing direct financial relief to households, enabling investments in health, education, and housing, particularly in underserved regions (Bird & Choi, 2019; World Bank, 2022). Moreover, during crises such as natural disasters or humanitarian emergencies, foreign aid and remittances act as lifelines for affected households, helping them meet fundamental needs and recover from economic shocks. However, the effectiveness of foreign aid depends on proper allocation, transparent governance, and efficient implementation. Mismanagement and corruption can undermine its positive impacts, while disparities in distribution can exacerbate income inequality. Therefore, integrating foreign aid and remittances into a comprehensive development strategy is imperative for maximizing their benefits to household welfare and ensuring long-term sustainability. Building on this foundation, this study focuses on examining the impact of

foreign aid and remittances on household welfare in Nigeria, recognizing the increasing importance of these inflows in sub-Saharan Africa. Nigeria, as a major recipient of foreign aid and remittances, provides an ideal case for assessing their effects on welfare and aligning outcomes with the global sustainability agenda. The study evaluates various forms of foreign aid, including official development assistance, technical corporations grant, multilateral financial flows and bilateral aid, alongside remittances. By exploring the interplay between these financial inflows and household welfare, the research contributes to the existing body of literature and offers actionable insights. The research also addresses the ongoing debate regarding whether foreign aid inflows have predominantly positive or negative effects on household welfare. It offers practical value to governments, academics, and international donors by deepening understanding of foreign aid and remittance impacts. The findings provide critical insights for optimizing microeconomic stability, reducing policy overlaps, and guiding donor inflows to achieve maximum efficiency. For Nigeria, as one of sub-Saharan Africa's leading recipients of foreign aid, this research underscores pathways for leveraging aid and remittances to achieve the Sustainable Development Goals (SDGs) and foster household welfare. Furthermore, it serves as a reference for other developing countries seeking to align foreign aid inflows with sustainable development priorities.

## 2. THEORETICAL AND EMPIRICAL LITERATURE

### 2.1 Theoretical Review

This study is anchored on the Dual gap theory of Chenery and Strout (1966). According to the two-gap theory, there is a shortage of income and savings at home that can be channeled to the process of economic development, especially in emerging nations. These gaps impede economic growth, requiring additional financing mostly in the form of debt to fill them. This is the reason any additional resource in the form of official development assistance, technical assistance, bilateral or multilateral aid is important. Whichever of the two gaps (savings or foreign exchange) exists will constrain the amount of investment and capital formation that can be undertaken in a country. The dual-gap starts with the basic macroeconomic identity of an open economy where Aggregate Output = Aggregate Expenditure.

$$Y = C + I + X - M \quad (1)$$

Where, Y stands for national income, C for consumption, I for investment, X for exports, and M for imports. (Note that both exports and imports include both goods and services) –

$$Y - C = I + X - M \quad (2)$$

Since  $Y - C =$  national saving(S)

Therefore,

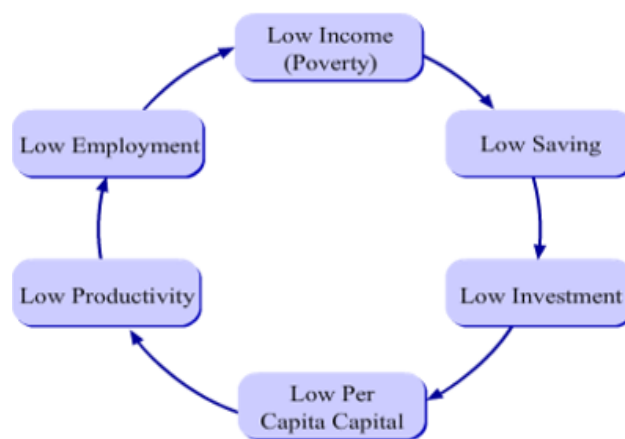
$$S = I + X - M \quad \text{or} \quad I - S = M - X \quad (3)$$

The relationship in equations (1) and (2) holds for the saving gap and foreign exchange gap, where  $M-X$  represents the foreign exchange gap and  $I-S$  represents the savings gap, respectively. Thus, the above equations (1) and (2) show that the saving-investment gap equals

the import-export gap. There are two main reasons why any country needs foreign finance, according to Soludo (2003). In order to alleviate budgetary limitations, the first macroeconomic goal is to encourage higher investment and the development of human capital. The second goal is to address deficits in the budget and the balance of payments. The necessity for government debt in Nigeria arises from the well-known importance of external financing for any economy's growth, as capital importation increases productivity, which in turn boosts economic growth (Hassan, Sule, & Abu, 2015; Obadan & Uga, 2004). According to the "twin gap" theory, emerging nations like Nigeria have a savings-investment gap and need foreign exchange data on capital inflows in a variety of forms to supplement their domestic resources.

## 2.2 Vicious Cycle of Poverty

The vicious cycle of poverty theory is propounded by Ragnar Nurkse (1953). The model of vicious circle of poverty demonstrates low level of economic activity, which consists of two levels: supply level and demand level (Li, & Ma, 2015). According to the theory, the supply level progress in the following vicious circle “low income-low savings-low capital formation-low productivity-low output-low income. On the other hand, the demand level progress in the following vicious circle “low income-low purchasing power-low attractiveness of investment-low output-low income. This theory explains situation of poor families where the head of household (HOH) is unable to provide the basic needs of the household such as food, clothing, shelter housing, education, health and many others (Bass, 2011). Poverty will continue to be inherited by future generations if the earlier HOH still unable to provide all the basic needs (Hashim, Osman & Badioze-Zaman, 2016).



**Figure 1: Nurkse (1953) Model of Vicious Circle of Poverty(VCP)**

The vicious cycle of poverty posits that the major reason why developing countries are in perpetual poverty is as a result of low income (Ogbuabor, Malaolu and Elias 2013; Rohima et al. 2013). The low income of consumers in developing countries makes the countries to be held in poverty cage which is very difficult to breakthrough. Low income of consumers implies that the consumers' disposable income is not enough to consume and their savings ability is limited in the same vein. The aftermath effect of this is low purchasing power and low demand on the

supply-side. The firms will consequently experience high inventory which leads to low profits for producers, households and companies. And as such, there will be low capacity for all relevant economic agents to save, metamorphosing into deficiency in capital and low productivity. Hence, poverty cage continues in the economy.

### 2.3 Empirical Review

Empirically, the study by Onyebuchi and Risikat (2022) found that foreign aid exerts negative effect on poverty reduction in West, East and North Africa using dynamic ordinary least squares (DOLS), which conforms with the findings of similar studies conducted in MENA countries and Nigeria using system-GMM estimation, DOLS and Granger Causality for the period of 1991 to 2019 and 1981 to 2017 (Zeeshan, et al. 2022; Ogunleye et al. 2020). Ilesanmi and Agbede (2022) adopted Vector Autoregressive (VAR) Model on the data from 1980 to 2020, and result show that ODA reduces poverty level in Nigeria. According to Elias and Abalis (2020), who used data from 1981 to 2018 and followed Toda Yamamoto, multilateral and bilateral aid substantially contribute to Nigeria's government consumption. Aderemi, Yusuf, Sodeinde, and Aleshinloye (2020) Error Correction Model Approach on data from 1981 to 2017 and finding shows that ODA have inverse effect on household consumption per capita. Adelowokan et al. (2020) used data from 2002 to 2007 and the system generalized method of moment estimator to find that foreign aid had a positive but minor impact on private consumption. Similar findings were made by Magesan (2016), who employed the Ordinary Least Square (OLS) Fixed Effect to find that growing aid levels in developing countries raise household consumption, which in turn results in a structural change in the demand for household services.

The study by Ewubare and Okpoi (2018) examined *RMT* and poverty reduction in Nigeria using the *ARDL* technique. The findings indicated that inward and outward *RMT* have different short-term impacts on poverty reduction, with inward *RMT* having a considerable influence and outward *RMT* having a negligible one. In the short run, ODA and TCG have opposing effects on poverty. While outward remittances, ODA, and TCG all decreased the incidence of poverty, inward *RMT* did not in the long run. All the independent variables were insignificant in the long term. In a related study, Tsurai (2018) investigates the effect of *RMT* on poverty alleviation in selected emerging markets using the panel regression technique. The dependent variable is the poverty headcount ratio at US \$1.90 and US \$3.10 a day (percent of the population). The fixed effects approach produced results that supported the *RMT*-led poverty reduction (optimistic) hypothesis, whereas the pooled *OLS* disclosed that *RMT* inflow into the selected emerging markets led to a rise in poverty levels. However, Bwire, Morrissey, and Lloyd (2013) study utilizing *CVAR* on data from 1972 to 2008 showed that aid has a positive, direct, and indirect relationship with the rise in Uganda's private per capita income. Similarly, Nestor (2020) employed panel regression on data from 1960 to 2015 and result show that foreign aid had a positive on income inequality. This is in line with the findings of the study conducted in sub-Saharan African countries (Anetor, Esho, & Verhoef, 2020) using Feasible Generalized Least Squares on the data from 1990 to 2017. Also, in a country specific analysis conducted in Nigeria using *ARDL* on data from 1981-2014 and 1999 to 2017, found technical

corporation grant and official development having positive impact on poverty (Ugwuanyi, Ezeaku & Ibe, 2017; Shitile, & Sule, 2019). Igbinedion and Olele (2018) employed error-correction modeling (ECM) on data from 1980 to 2015 and finding shows that foreign aid influences domestic savings in both short-run and long-run. This is in agreement with the findings of Omenda and Urbanus, (2022) in Kenya using 2-Stage least square on data from 1960 to 2019. The empirical literature presents a spectrum of findings, as indicated above. Some studies suggest that foreign aid leads to an increase in household consumption expenditure (Ilesanmi & Agbede, 2022; Ogunleye et al. 2020; Magesan, 2016), given the reduction in poverty level. While others argue that it has the opposite effect, reducing consumption expenditure as a result of continuous rise in poverty level (Aderemi et al. 2020; Adelowokan et al. 2020; Shitile, & Sule, 2019; Ugwuanyi, Ezeaku & Ibe, 2017). Also, other scholars are of the opinion that foreign aid facilitates increase in domestic savings (Igbinedion & Olele, 2018; Omenda & Urbanus, 2022). Some studies reveal that foreign aid does not bridge income inequality (Nestor, 2020; Anetor, Esho, & Verhoef, 2020). These differences in empirical research findings point to the topic's unrealized potential regarding the effect of foreign aid on household consumption spending and the necessity of more investigation to fully understand this intricate problem.

This study used a linear regression model to determine the effects of remittance *RMT* on poverty and human capital formation in Nigeria (Onah, 2010). Probit regression was also employed in the study to investigate the impact of *RMT* on poverty, particularly to distinguish between receiving and non-receiving households. The result shows that *RMT* has positive effects on poverty and human capital formation. In a related study, Fonta, Onyukwu, and Nwosu (2011) studied *RMT* inflows and household welfare in Nigeria. The results of the adopted Reardon and Taylor (1996) simulation method revealed that household poverty declines across all the geopolitical zones, by sex, and by locality because of *RMT* inflows. Similarly, an increase in *RMT* reduces income inequality (the Gini Coefficient) more in urban areas than in rural areas. In addition, an increase in *RMT* is related to falls in the Gini coefficients of total income inequality in rural and urban areas. The use of the Gini coefficient makes the work robust, especially with the use of the simulation technique. Furthermore, in a study carried out in rural Nigeria based on living standard survey data collected in 2004, Olowa and Adebayo (2012) assessed *RMT* and income inequality. The study decomposed income inequality in rural areas using the Gini decomposition and analyzed the data using regression-based approaches, and the findings exhibit that domestic *RMT* seems more likely to be income equalizing than foreign *RMT*. Education is related to lower domestic *RMT* and higher foreign *RMT*, probably reflecting the role of education in promoting international versus domestic migration. An increase in schooling increases inequality through domestic *RMT* and decreases inequality through international *RMT*, while a drop in household size reduces inequality through both domestic and international *RMT*. Similar to this, Olofin (2013) used data from 8 West African nations between 1975 and 2010 to assess the relationship between aid and poverty rates. The adopted cointegration test and heterogeneous slopes showed that total aid and food aid impact poverty positively, while technical aid reduces it significantly. The results further showed an inverse nexus among poverty, life expectancy, *FDI*, per capita GDP, and

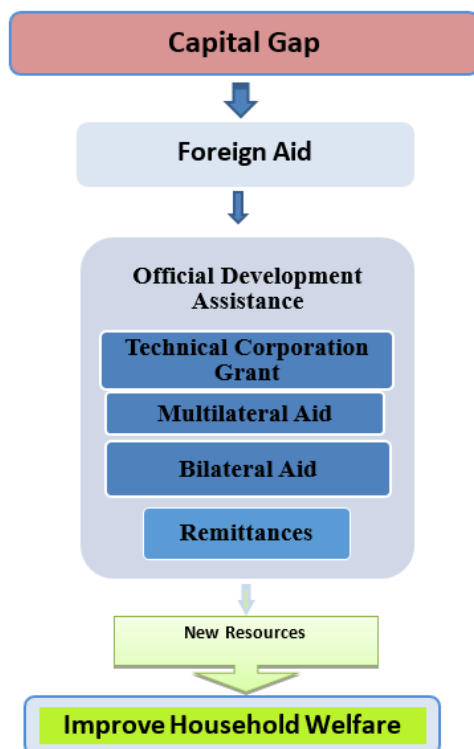
financial depth but exhibited an insignificant correlation. These results imply that the effect of foreign aid on poverty in West Africa is negligible. Woldekidan (2015) conducted a study to determine the contribution of foreign aid to eradicating poverty in Ethiopia using time-series data from 1975 to 2010. Through a decrease in newborn mortality and an increase in household consumption spending, the study's multivariate co-integration analysis showed that foreign aid has a significant impact on reducing poverty. On the other hand, its impact is seen as negative when poverty is measured by the gross primary enrollment ratio. Nonetheless, when augmented by the macroeconomic policy index, the impact turned out to be positive. Furthermore, the results indicated the presence of diminishing returns to foreign aid inflows; economic growth contributes significantly to poverty reduction, whereas poor governance exacerbates poverty.

Ojo *et al.* (2016) used primary sources to acquire data for their study, which looked at how foreign aid affected initiatives aimed at reducing or alleviating poverty in Lagos State, Nigeria. Conclusions drawn from the content analysis of the primary data gathered indicate that a number of issues, such as the misuse of funds and the lack of complete beneficiary information, pose a danger to the effectiveness of aid in decreasing poverty.

Azam, Haseeb, and Samsudin (2016) used data from 1990 to 2014 to ascertain the influence of *RMT* on poverty alleviation in 39 countries, including the lower middle, upper middle, and high-income countries. According to the FMOLS panel results, an increase in income level leads to a decrease in poverty. *RMT* exerts a positive impact on poverty alleviation and is significant only for upper-middle-income countries. The impacts of aid and debt on poverty are found to be positive. Similarly, Jibril and Leta (2016) used a binary logistic model to determine the impact of *RMT* on poverty reduction in south-west Ethiopia using empirical evidence from the Jimma Zone. The household survey data were collected from 371 household heads in 2014. The results showed that the poverty status of households is negatively related to the inflow of *RMT*. This implies that the household that receives *RMT* is less likely to be poor. Furthermore, the study findings emphasized that family size, total land holding, livestock ownership, and distance from the nearest market all play a significant role in determining poverty status. This implies that *RMT* inflows are not channeled into sustainable economic activities that can improve their living standards, but rather are used on immediate consumption items. Thus, there is a need for campaign awareness on how to channel the inflow into meaningful ventures. Pekovi (2017) studied the effects of *RMT* on poverty alleviation in nine transitional nations from 2002 to 2013 using the least-squares dummy variable model with a panel-corrected standard error estimation technique. The results showed that *RMT* has a significant impact on each of the three poverty measures. The study concludes that the outcome of the study can serve as a policy measure for providing more efficient management of *RMT*.

## 2.4 Conceptual Framework

The conceptual framework in Figure 2 explains why less developed economies like Nigeria require foreign aid, remittances to increase household welfare.



**Figure 2: Schema Diagram of Foreign and Household Consumption Expenditure**

*Source: Author's Construction*

### 3. METHODS

The analytical framework for the empirical structure and conduct of the study is covered in this part. An overview of the model specification and the estimation process is given. Methodological difficulties related to data measurements and the framework for the test of analyses would be discussed in order to obtain the behavioral properties of the data for the reliability of estimation. Furthermore, the estimation method to be employed in our empirical research would be guided by the findings of preliminary diagnostic tests such as descriptive statistics and stationarity tests. Most notably, this study would use an econometric model, which is a quantitative research design. The statistical validity of the association between household consumption spending and foreign aid in Nigeria was examined by the researcher using this method.

#### 3.1 Nature and Sources of Data

This research uses annual data from 1986 to 2024 as a sample period. The data includes Households Welfare proxied by Gini Coefficient (index), net official development assistance received (Current US\$), net financial flows, bilateral (NFL, Current US\$), net financial flows, multilateral (NFL, Current US\$), Technical Corporation Grant (Current US\$), official

exchange rate (N/US\$), Remittances (Current US\$), Gross domestic product (GDP) per capita (Current US\$), and consumer price index (rate).

### 3.2 Techniques of Data Analysis

To investigate the impact of foreign aid and remittances on household welfare, a three-phase empirical approach and an ex post facto research methodology were utilized, all in accordance with the current study's objectives. A few basic diagnostic tests, including bound co-integration and stationarity tests, are conducted during the initial phase. Estimating the models is the focus of the second process. As the last step, the estimates will be assessed using a few diagnostic tests to see how reliable the models employed for the estimation were. The study will adopt both descriptive statistics of graphs, tables, and ratios and analytical techniques of Granger causality test, autoregressive distributive lag (ARDL), and Wald test. As preliminary testing, the Philip Perron unit root and the Augmented Dickey Fuller unit root tests were employed. The Heteroskedasticity Test and the Breusch-Godfrey Serial Correlation LM Test Breusch-Pagan-Godfrey and Ramsey are two further econometric diagnostic methods. RESET Tests were utilized to ascertain that the data was adequate for further analysis. The results were presented logically to address the objectives of the study.

### 3.3 Model Specification

In line with the objectives of this study, the specification of the model takes a lead from the theoretical postulations of dual-gap model/permanent income hypothesis and the models specified by recent studies (see Asongu, & Ezeaku, 2020; Adelowokan et al. 2020; Iheonu & Nwachukwu, 2020; Elias & Abalis, 2020) under the theoretical framework of the two-gap model and consumption function, using the ARDL and other econometric techniques to aid the analysis. The point of departure from these adopted models is in the consideration of other foreign aid components of bilateral financial flows, multilateral financial flows alongside remittances as emphasized by dual-gap theory in addition to control variables of GDP per capita, consumer price index and exchange rate. This study deviates from the existing dynamics in extant literature, hence, household welfare proxied by Gini Coefficient will be adopted as dependent variables (Olowa & Awoyemi, 2011; Randazzo & Piracha, 2014; Adelowokan et al. 2020). This is because they are considered as drivers of welfare and used for the satisfaction of needs or wants and other social issues. Therefore, before starting the preliminary and primary estimate tests, these models are adjusted to take this dynamic into account and describe all the variables in their natural log forms.

**Table 1: Variables' Description**

M,	Description	Measures	Transformed	Designations	Sources
HHW	Households Welfare Proxied by Gini Coefficient	(Index)	Natural Logarithm	Dependent Variable	WDI
RMT	Remittances	(Current US\$)	Natural Logarithm	Independent Variable	WDI
ODA	Net official development assistance received	(Current US\$)	Natural Logarithm	Independent Variable	WDI
TCG	Technical Corporation Grant	(Current US\$)	Natural Logarithm	Independent Variable	WDI

MLA	Net financial flows, multilateral	(Current US\$)	Natural Logarithm	Independent Variable	WDI
BLA	Net financial flows, bilateral	(Current US\$)	Natural Logarithm	Independent Variable	WDI
GPC	Gross Domestic Product (GDP) Per Capita	(Current US\$)	Natural Logarithm	Independent Variable	WDI
EXR	Exchange rate measure the strength of local currency	Rate	Natural Logarithm	Independent Variable	WDI
CPI	Consumer Price Index	Rate	Natural Logarithm	Independent Variable	WDI

Source: World Bank's World Development Indicators (WDI)

### Autoregressive Distributed Lag

To capture the dynamics of the impact of foreign aid on household welfare in line with the first objective of this study, an Auto-regressive Distributed Lag modeling procedure will be used, which allows us to account for both the short-run and long-run dynamics of the impact of foreign aid on household consumption expenditure in Nigeria. One reason to use ARDL as the appropriate estimate strategy over other alternative approaches discovered in the literature is that the model may be applied regardless of whether the variables are stationary or become stationary through the initial difference. Furthermore, automatically resolving the endogeneity issue and residual serial correlation is a requirement for choosing the best ARDL model, according to Pesaran and Shin (2001). The relationship between household consumption expenditure (HCE) and foreign aid (FAid) can be written in the ARDL framework below.

$$\Delta \ln HHW_t = \varphi + \sum_{j=1}^p \alpha_{1j} \Delta \ln HHW_{t-j} + \sum_{i=0}^q \alpha_{2i} \Delta \ln FAid_{t-i} + \sum_{i=0}^q \alpha_{3i} \Delta \ln RMT_{t-i} + \sum_{i=0}^k \alpha_{4i} \Delta X_{t-i} + \beta_1 \ln HHW_{t-1} + \beta_2 \ln FAid_{t-1} + \beta_3 \ln RMT_{t-1} + \beta_4 \ln X_{t-1} + \varepsilon_t \quad (4)$$

Where,  $\Delta$  is the first difference operator, and in line with the autoregressive feature of the model, the dependent variable  $\Delta \ln HHW_t$  captured as the first difference of log HHW is partly explained by its lagged value. The model also has a “distributed lag” component in the form of successive lags of the independent variables, such as foreign aid (FAid) and remittances (RMT). All other factors that affect household welfare are represented by the vector term X, which also includes official development assistance (ODA), bilateral and multilateral financial flows (MLA, BLA), technical corporation grants (TCG), remittances (RMT), GDP per capita (GPC), consumer price index (CPI), and exchange rates (EXR). More significantly, the FAid is separately captured from the viewpoints of technical corporation grant (TCG), official development aid (ODA), bilateral financial flows (BLA), and multilateral financial flows (MLA). The terms  $p$ ,  $q$ , and  $k$  are the maximum lag lengths, while  $\varepsilon_t$  it is the error term representing residual in the model and is expected to be well behaved such that; it is serially independent, homoscedasticity, and normally distributed. The long-run parameters for the intercept and slope coefficients are computed as:

$$-\frac{\varphi}{\beta_1}, -\frac{\beta_2}{\beta_1} \text{ and } -\frac{\beta_3}{\beta_1}$$

Nonetheless, the long-term estimates are derived from the short-term predictions since it is expected that and, respectively. Finding the best lag combination for the ARDL becomes essential since the variables in initial differences can support many lags. The Schwartz Information Criterion was used to determine the ideal lag length (SIC). The lag combination that receives the least significant score for the chosen criterion among the competing lag orders is considered the optimal lag. As a result, the long-run relationship in the model is tested using the favored ARDL model. As mentioned previously, this method of verifying cointegration is called bounds testing since it takes into account both the upper and lower bounds. The test uses an F distribution, meaning that cointegration exists if the computed F-statistic is larger than the higher bound, absent cointegration if it is less than the lower bound, and inconclusive if it falls between the two bounds. The following is a new formulation of equation (3.1) that incorporates an error correcting term:

$$\Delta \ln H H W_t = \varphi + \xi E C T_{t-1} + \sum_{j=1}^p \alpha_{1j} \Delta \ln H H W_{t-j} + \sum_{i=0}^q \alpha_{2i} \Delta \ln F A i d_{t-i} + \sum_{i=0}^q \alpha_{3i} \Delta \ln R M T_{t-i} + \sum_{i=0}^k \alpha_{4i} \Delta X_{t-i} + \varepsilon_t \quad (5)$$

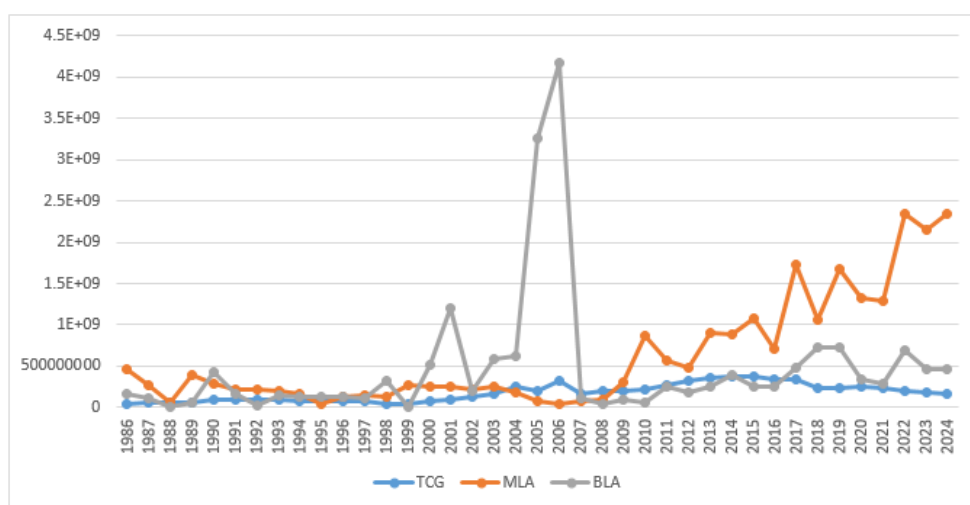
Where the term  $E C T_{t-1}$  is the linear error correction term while the coefficient  $\xi$  represents the speed of adjustment to the equilibrium level if the value of the coefficient is in the  $(-1, 0)$  range, then the error correcting mechanism is stable and the influence of a particular exogenous shock is taken into account by ECT in adjusting the long-run relationship. When the ECT model departs from the long-run equilibrium in the case of a positive coefficient, a particular shock will no longer be neutralized. These ratios indicate a low-speed exogenous shock adjustment if they are closer to 0, a high shock adjustment in the considered time (one year for annual data, one quarter for quarterly data, etc.) if they are closer to -1.

## 4. RESULTS AND DISCUSSION

### Trend Analysis

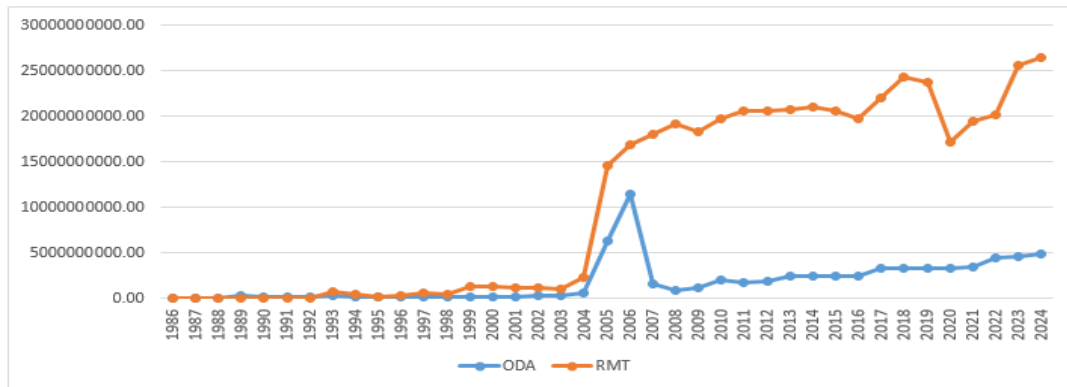
The data on Technical Cooperation Grants (TCG), Multilateral Aid (MLA), and Bilateral Aid (BLA) from 1986 to 2024 exhibit notable fluctuations. TCG has shown a general upward trend, rising from \$46.48 million in 1986 to a peak of \$376.59 million in 2014 before gradually declining to \$169.06 million in 2024. This suggests increased external technical assistance in the early 2000s and mid-2010s, followed by a reduction in recent years. MLA has exhibited significant volatility, with substantial increases in the 2010s, peaking at over \$2.3 billion in 2022 before slightly declining in 2024. This variability indicates changing donor priorities and economic conditions influencing multilateral funding. Bilateral aid (BLA) has shown erratic movements, with significant peaks in 2005 and 2006 at over \$3.2 billion and \$4.1 billion, respectively, followed by a sharp decline in subsequent years. This suggests periodic large-scale bilateral commitments rather than a consistent funding pattern. More recent years have

seen moderate but fluctuating levels, with \$471.95 million in 2023 and \$454.83 million in 2024. Such trends indicate that while bilateral aid remains crucial, it is subject to geopolitical and economic shifts affecting donor commitments. The trends in aid flows reflect global and regional economic dynamics, donor policies, and recipient country needs. The increasing reliance on multilateral aid in recent years suggests a shift in funding mechanisms, possibly due to stronger institutional frameworks within multilateral agencies. Meanwhile, the decline in TCG and fluctuating BLA highlight uncertainties in direct bilateral assistance and technical support, necessitating strategic planning for aid utilization and long-term financial sustainability.



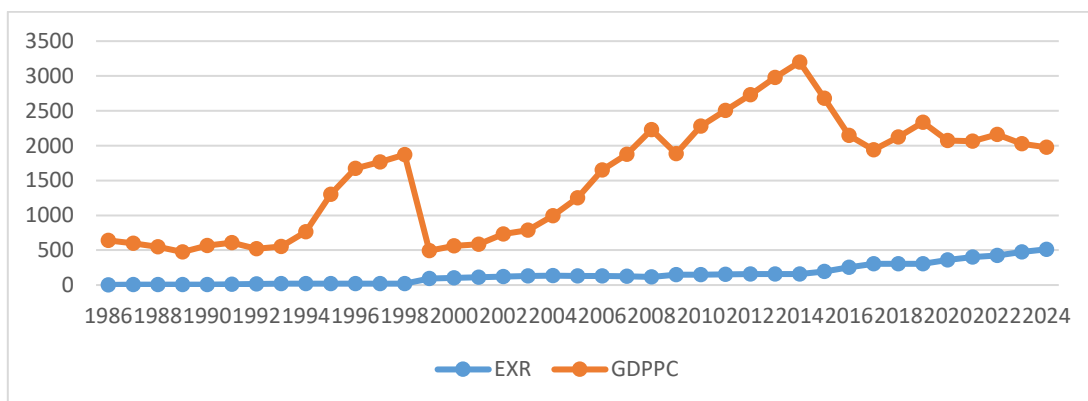
**Figure 3: Trends in Technical Corporation Grant (TCG), Multilateral Aid, and Bilateral Aid (BLA)**

The data on Official Development Assistance (ODA) and Remittances (RMT) from 1986 to 2024 reveal significant growth trends. ODA saw moderate increases in the 1990s but surged dramatically from 2005 onwards, peaking at approximately \$11.43 billion in 2006. This sharp increase suggests a period of heightened donor engagement, possibly driven by international aid commitments or economic crises requiring external support. After fluctuating throughout the 2010s, ODA rose steadily in recent years, reaching \$4.93 billion in 2024. This trend highlights the continued importance of external assistance in economic development. Remittances (RMT) followed a similar upward trajectory but exhibited even more substantial growth. From relatively low levels in the 1980s and 1990s, RMT skyrocketed in the early 2000s, surpassing \$14.6 billion in 2005 and continuing to grow steadily. By 2024, remittances had reached an impressive \$26.39 billion, indicating the increasing role of diaspora contributions in national economic stability.



**Figure 4: Trends in Official Development Assistance (ODA) and Remittances (RMT)**

The exchange rate (EXR) data reveals a significant depreciation of the currency over time, particularly after 1999, when it surged from 21.89 in 1998 to 92.34 in 1999. This sharp depreciation likely reflects structural adjustments or economic crises. The exchange rate continued to rise, reaching 150.3 in 2010 and 305.79 in 2017, indicating persistent depreciation. More recent years show an accelerating trend, with EXR reaching 513.05 in 2024, suggesting increasing pressure on the currency, possibly due to inflation, trade imbalances, or external shocks. GDP per capita (GDPPC) presents a fluctuating trend, initially declining from 638.73 in 1986 to 474.46 in 1989, before showing remarkable growth from 1995 onward, peaking at 3,200.95 in 2014. However, post-2014, GDPPC declined sharply, falling to 1,976.21 in 2024. This decline coincides with a worsening exchange rate, implying potential economic instability, reduced purchasing power, or slow real economic growth. The trend suggests that while periods of economic expansion occurred, external and internal factors, including inflation, currency depreciation, and policy changes, have negatively impacted per capita income in recent years.



**Figure 5: Trends in Exchange Rate (EXR) and Gross Domestic Product Per Capita (GDPPC)**

The Consumer Price Index (CPI) data shows a consistent upward trend, indicating persistent inflation over the years. CPI was relatively low in the late 1980s, rising from 0.87 in 1986 to 16.82 in 1995, and then escalating rapidly in the 2000s. The CPI surged past 100 in 2010 and

continued accelerating, reaching 515.67 in 2024. This sharp increase suggests significant inflationary pressures, likely driven by currency depreciation, economic instability, or structural inefficiencies in price regulation. In contrast, the Gini coefficient, which measures income inequality, exhibits a declining trend after peaking at 51.90 in 1996. The index gradually decreased, reaching 35.70 in 2010 and continuing its downward movement to 32.87 in 2024. This suggests a narrowing income disparity over time, possibly due to social policies, wage adjustments, or economic redistributive measures. However, despite improving income equality, persistent inflation could undermine real income gains, reducing the overall welfare improvements suggested by the declining Gini coefficient.

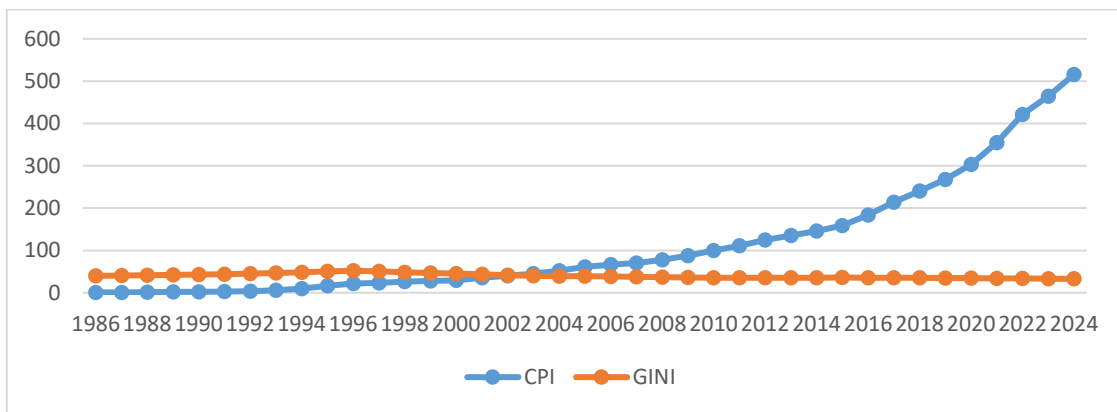


Figure 6: Trends in Consumer Price Index (CPI) and Gini Coefficient (GINI)

### Unit Root Test

Time series data often have the tendency of violating the best, linear, unbiased, estimate property for the adoption of the ordinary least square's methodology. To ascertain the stationarity of time series data therefore, the foremost Augmented Dickey-Fuller test of unit root test was adopted among a host of other techniques for conducting this characteristic. Table 2 depicts the summary of the unit root test for the data under consideration. The unit root test indicated that the variables in the model achieved stationarity at differenced levels. For instance, GINI, ODA, and BLA achieved stationarity at level series. However, the other variables (MLA, TCG, EXR, CPI, RMT, GDPPC) showed to possess a unit root at the level series, thus, were differenced, achieving stationarity at this level; this being at the first difference. Thus, it can be asserted that the variables in the model exhibited a mixed order of integration. Table 3 is the ARDL Bounds test assesses the presence of co-integrating relationship among the variables in the model. The test has a null hypothesis of no levels relationship and a converse alternate hypothesis. The I(0) and I(1) represents the upper and lower bounds of the relationship; indicating no long-run relationship or the presence of a long-run relationship. Where the computed F-statistic of the Bounds' test falls below I(0) or above I(1), the conclusion is that there is no long-run relationship or there exists a long-run relationship respectively. When the F-statistic lies between the lower and upper bounds, the test is inconclusive. From Table 3, the F-statistic of 13.47 is greater than the upper bound level of 3.59, thus, there is a co-integrating relationship among the variables in the model.

**Table 2: Summary of ADF Unit Root Test**

Variable	Level Series	Prob.	Differenced	Prob.	Order of Integration
GINI	-3.811213	0.0010	-	-	I (0)
ODA	-3.887267	0.0227	-	-	I (0)
MLA	-3.192765	0.1011	-7.729850	0.0000	I (1)
BLA	-4.715698	0.0028	-	-	I (0)
TCG	-1.360311	0.8565	-6.343088	0.0000	I (1)
EXR	-3.038286	0.1356	-6.556941	0.0000	I (1)
CPI	-3.302776	0.0816	-4.073746	0.0148	I (1)
RMT	-1.607528	0.7712	-3.614714	0.0466	I (1)
GDPPC	-2.175657	0.4889	-5.320038	0.0006	I (1)

Source: Extract from E-view 12 Output, February, 2025

**ARDL Bounds Test for Cointegration**

**Table 3: Summary of ARDL Bounds Test for the Effect of Foreign Aid on Household Welfare in Nigeria**

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	13.47130	10%	2.53	3.59
k	6	5%	2.87	4
		1%	3.6	4.9

Source: Extract from E-view 12 Output, February, 2025

The short-run ARDL model estimates are presented in Table 4. The lagged value of the dependent variable being GINI exerted a negative impact on the predicted parameter which was significant at 5% level. On the other hand, official development assistance (ODA), other things being equal exerted a positive and significant effect on household welfare (proxied by GINI coefficient) in the short-run and long-run presented on Table 4.3. This means a unit change in ODA would lead to a 1.9451 and 2.0776-unit increase in household welfare in short-run and long-run at 5% significant level. Multilateral and bilateral financial flows (MLA and BLA) both exerted a positive impact on household welfare respectively, with the impact being statistically significant at 10% in the short-run while in the long-run at 5% level. A unit change in the respective values of MLA and BLA would elicit a 3.5238 and 2.3851 unit change in household welfare in the short-run while in the long-run, a unit change in MLA and BLA, would lead to a 3.7638 unit and 2.5475-unit increase in household welfare at 5% significant level. However, technical corporation grant exhibit negative effect and insignificant relationship with household welfare in the short-run and long-run respectively. A unit change in technical corporation grant (TCG) would lead to a -0.8401 unit and -0.8973-unit decline in household welfare in the short-run and long-run. Exchange rate (EXR) exerted a negative and significant effect on household and this implies that a unit change in EXR would lead to a -7.3237 unit change in household welfare at 5% significant level in the short-run. Consumer price index (CPI) exerted a positive and significant effect on household welfare in the short-run. This means a unit change in CPI would result in a 12.8702 unit change in household

welfare in the short-run at 10% significant level.

**Table 4: Summary of ARDL Estimates for the Effect of Foreign Aid on Household Welfare in Nigeria**

Panel A: Short-run Estimates				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-81.48364	45.95839	-1.772987	0.1743
GINI(-1)*	-0.936220	0.242117	-3.866808	0.0306
LOG(ODA)**	1.945124	0.082253	3.797291	0.0001
LOG(MLA)**	3.523815	1.264067	2.787681	0.0686
LOG(BLA)**	2.385070	0.150348	2.973346	0.0098
LOG(TCG)**	-0.840133	0.492685	-1.705213	0.1867
LOG(EXR)**	-7.323725	2.082246	-3.517223	0.0390
LOG(CPI)**	12.87018	4.467505	2.880843	0.0635
Panel B: Long-run Estimates				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(ODA)	2.077635	0.540462	3.472014	0.0199
LOG(MLA)	3.763874	0.614571	6.124398	0.0088
LOG(BLA)	2.547553	0.773629	3.292991	0.0460
LOG(TCG)	-0.897367	0.408137	-2.198690	0.1153
LOG(EXR)	-7.822652	0.669850	-11.67822	0.0013
LOG(CPI)	13.74696	1.561574	8.803271	0.0031

Source: Extract from E-view 12 Output, February, 2025

**Table 5: Summary of ECM Regression**

ECM Regression				
Case 5: Unrestricted Constant and Unrestricted Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-81.48364	4.639824	-17.56180	0.0004
CoIntEq(-1)*	-0.936220	0.055663	-16.81955	0.0005

Source: Extract from E-view 12 Output, February, 2025

The mixed order of integration was a sufficient condition for the employment of the Autoregressive Distributed (ARDL) technique to test the relationship between the variables in the model. The short-run ARDL incorporates the co-integrating equation to test the speed of adjustment of the short-run disequilibrium from the long-run. The co-integrating equation has necessary and sufficient conditions for relevance, this being negatively signed and statistically significant. In this instance, the co-integrating equation is -0.9362 with a probability value 0.0005. From the foregoing, any short-run disequilibrium will be corrected at the rate of 0.9362 annually; the speed of adjustment being fast, ensuring that the system will achieve long-run equilibrium at an accelerated rate of just over a year. The constant term indicated that ceteris paribus, household welfare of Nigerians in the period under consideration would decline by 81.48 in each period.

**Table 6: Summary of Breusch-Godfrey test for Serial Correlation**

Breusch-Godfrey Serial Correlation LM Test:			
Null hypothesis: No serial correlation at up to 2 lags			
F-statistic	0.611862	Prob. F(2,1)	0.6706

Obs*R-squared	19.26064	Prob. Chi-Square(2)	0.0001
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Source: Extract from E-view 12 Output, February, 2025

The adoption of time series data necessitates the estimation of post-diagnostics tests to test the robustness and validity of the findings. There is a plausible tendency for a time series variable to exhibit linear dependence on past values of itself, hence, the Breusch-Godfrey test for serial correlation tests for the presence of this problem. With a probability value of the F-statistic being 0.6706, a value greater than the 0.05 level of significance, the study accepts the null hypothesis, and concludes that there is no serial correlation among the lagged values of the variables. This is presented in Table 6. Consequently, the ARCH heteroskedasticity test confirms the presence of constant variance in the error terms of the model. From Table 7, the probability value of 0.1775 is greater than the 0.05 significant levels. Thus, the null hypothesis of no heteroskedasticity is accepted in preference of the alternate.

Table 7: Summary of ARCH Heteroskedasticity Test

Heteroskedasticity Test: ARCH			
F-statistic	1.901237	Prob. F(1,32)	0.1775
Obs*R-squared	1.906776	Prob. Chi-Square(1)	0.1673

Source: Extract from E-view 12 Output, February, 2025

Table 8: Summary of ARDL Bounds Test for the Contribution of Remittances to Household Welfare in Nigeria

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	5.989872	10%	2.2	3.09
k	4	5%	2.56	3.49
		2.5%	2.88	3.87
		1%	3.29	4.37

Source: Extract from E-view 12 Output, February, 2025

Table 8 is a representation of the co-integrating relationship between the variables in the model. Given that the F-statistic (5.9899) is greater than the upper bound (I (1)) (3.09), it is concluded that there is a co-integrating relationship between the variables in the model, thus, a long-run relationship. From Table 9, the constant term being positive indicated that other things being equal, in each period, household welfare will improve by 18.18, which is a significant relationship. Ceteris paribus, the lagged value of GINI exerted a negative and significant effect on household welfare; thus, a unit changed in the lagged GINI coefficient would lead to current levels of the GINI to decline by 0.1672 of that unit change. The series of remittances exerted a positive and significant effect on household welfare proxied by GINI Coefficient in both short-run and long-run at 5% significant level. This implies that a unit change in remittances would elicit an increment in household welfare by 0.4738 unit and 2.8337 unit change in the short-run and long-run. The value of gross domestic product per capita (GDPPC) exhibit negative and significant relationship with household welfare in Nigeria and statistically significant at

10% and 5% level in both short-run and long-run. This portends that a unit change in GDP per capita would lead to a -1.9760 unit and -11.8193-unit decline in household welfare in the short-run and long-run. The coefficient of exchange rate exerts negative effect and significant relationship with household welfare in Nigeria at 5% level in the short-run and long-run. This implies that a unit change in exchange rate would lead to a -3.3976 unit and -20.3173 proportionate change in household welfare in the short-run and long-run. The series of consumer price index (CPI) hold a positive effect and significant relationship with household welfare in Nigeria at 5% level in both short-run and long-run. On the other hand, ceteris paribus, a unit change in consumer price index would lead to an increase by 1.9130 unit and 11.4426 unit in household welfare.

**Table 9: Summary of ARDL Estimates**

Panel A: Short-run Estimates				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	18.17930	7.343410	2.475594	0.0188
GINI(-1)*	-0.167184	0.046604	-3.587352	0.0011
LOG(RMT)**	0.473753	0.221548	2.138383	0.0402
LOG(GDPPC)**	-1.976007	1.034730	-1.909683	0.0652
LOG(EXR)**	-3.396730	1.172537	-2.896906	0.0067
LOG(CPI)**	1.913019	0.904231	2.115630	0.0423
Panel B: Long-run Estimates				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
LOG(RMT)**	2.833726	1.068674	2.651627	0.0124
LOG(GDPPC)**	-11.81936	4.324764	-2.732950	0.0101
LOG(EXR)**	-20.31732	4.628842	-4.389289	0.0001
LOG(CPI)**	11.44260	3.944623	2.900809	0.0067

Source: Extract from E-view 12 Output, February, 2025

**Table 10: ARDL ECM Regression**

ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CoIntEq(-1)*	-0.167184	0.025935	-6.446296	0.0000

Source: Extract from E-view 12 Output, February, 2025

The short-run ARDL model is depicted in the Table 10. The error correction model has an accompaniment, being the co-integrating equation. This measures the speed of adjustment. Thus, in the model, any short-run disequilibrium from the long-run is corrected at a speed of 0.1672. This speed of adjustment is slow, as a current disequilibrium will be corrected annually at about 16.72 per cent, thus, any specific disequilibrium will take over six years to achieve long-run equilibrium.

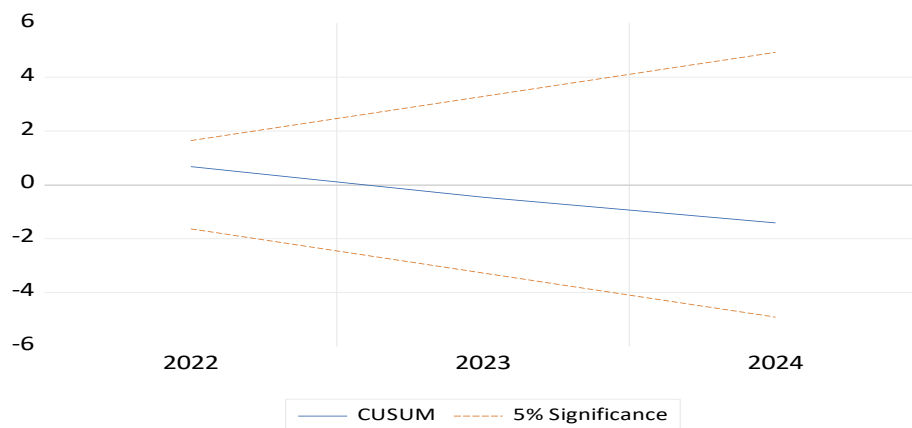
**Table 11: Summary of Ramsey RESET Test**

	Value	df	Probability
t-statistic	3.285483	2	0.0815
F-statistic	10.79440	(1, 2)	0.0815
Likelihood ratio	64.95511	1	0.0000

Source: Extract from E-view 12 Output, February, 2025

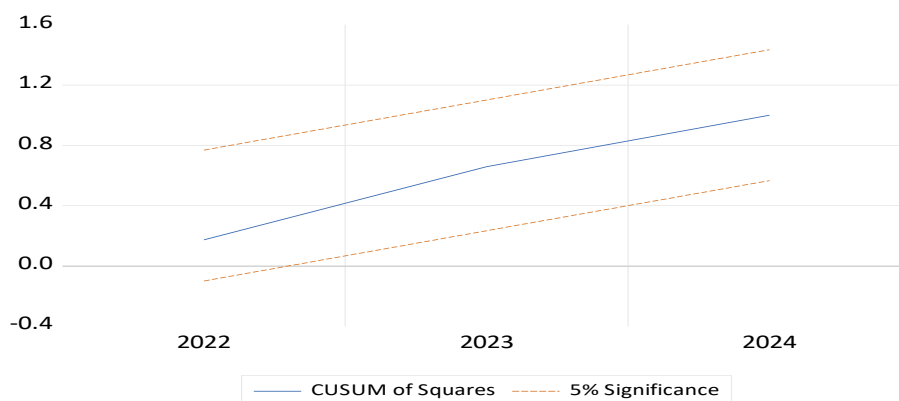
The Ramsey RESET is the test for model specification; and with a null hypothesis of no misspecification, the converse being the alternate hypothesis. Where the joint probability of the t- and F-statistic is greater than the critical value, the null hypothesis is accepted in preference to the alternate. From Table 11, the probability value of 0.0815 is greater than the significance level, 0.05. Thus, the model is devoid of misspecification.

**Cumulative Sum (Cusum) test**



**Figure 7: Cusum Graph, Source: *Extract from E-view 12 Output, February, 2025***

The Cumulative Sum (Cusum) test is employed to seek out the stability of the parameters in the model. The graph comprises of an upper and lower bund, represented by the red lines in the Figure 1. The blue line represents the model. When the blue line lies between the two lines and does not intercept them, it implies that parameters in the model are stable.



**Figure 8: Cusum of Squares Graph; Source: *Extract from E-view 12 Output, February, 2025***

The Cusum square test is an accompanying test, which unlike the Cusum which uses the mean, focuses on the variance. From the foregoing therefore, the parameters are devoid of any structural breaks and the methodology adequate.

## Causal Relationship Amongst Foreign Aid, Remittances and Household Welfare in Nigeria

There is a tendency for time series data to exhibit a measure of linear dependence. This dependence allows the future value of a variable to be determined by another variable. This causal relationship between time series data is tested by the Pairwise Granger causality test.

**Table 12: Summary of Pairwise Granger Causality Test**

Pairwise Granger Causality Tests			
Null Hypothesis:	Obs	F-Statistic	Prob.
LOG(ODA) does not Granger Cause GINI	36	5.32467	0.0054
GINI does not Granger Cause LOG(ODA)		3.56252	0.0262
LOG(TCG) does not Granger Cause GINI	36	6.76564	0.0026
GINI does not Granger Cause LOG(TCG)		3.39794	0.0309
LOG(MLA) does not Granger Cause GINI	36	1.58930	0.2133
GINI does not Granger Cause LOG(MLA)		1.34203	0.2800
LOG(BLA) does not Granger Cause GINI	36	3.51041	0.0083
GINI does not Granger Cause LOG(BLA)		0.75232	0.5300
LOG(RMT) does not Granger Cause GINI	36	4.05252	0.0160
GINI does not Granger Cause LOG(RMT)		1.92676	0.1473

**Note:** Eview12 Output, Author's computation (February, 2025)

Table 12 represent the result of the granger causality. The result shows that household welfare proxied by GINI coefficient exhibits by-directional causality official development assistance (ODA) and verse versa at 5% significant level. Similarly, technical corporation grant (TCG) exhibits by-directional causality with household welfare and verse versa at 5% significant level. However, multilateral aid (MLA) exhibits no causation with household welfare and verse versa. In the case of bilateral aid (BLA), the series exhibit uni-directional causation with household welfare at 5% but not verse versa. Similarly, remittances (RMT) exhibit uni-directional causation with household welfare in Nigeria at 5% level but not verse versa.

### Discussion of Findings

The first objective of eth study was focused on the determination of the effect of foreign aid on household welfare in Nigeria. The findings indicated that official development assistance (ODA) exerted a positive impact on household welfare in Nigeria in the both short-run and long-run. This is in tandem to a priori expectation, and similar to other studies that revealed the positive influence of foreign aid in reducing poverty and enhancing household welfare (Ilesanmi & Agbede, 2022; Ogunleye et al., 2020). However, there were other studies that revealed a contradictory impact of foreign aid on household welfare (Aderemi et al., 2020; Adelowokan et al. 2020; Shitile & Sule, 2019; Ugwuanyi et al., 2017; Onyebuchi & Risikat, 2022). The positive impact of foreign aid tended to be in its impact on improving standard of living. For instance, the provision of services that attend to water, sanitation, and healthcare,

would reduce the incidences of diseases that might be induced by their lack, curtailing out of pocket health expenditure that is often prevalent in Nigeria. The study also found the positive effects of multilateral and bilateral financial flows on household welfare in Nigeria. Credit extension from the World Bank, International Monetary Fund, countries like Japan, China, Britain, and other countries from the West has been necessary in promoting infrastructural creation and growth that has culminated in the raised standard of living.

Exchange rate exerted a negative influence on household welfare, which is contrary to a priori expectations, as well as theoretical, and economic postulation. This inverse relationship represents a conundrum as currency appreciation would lead to a reduction in the cost of imports, which is important for domestic consumption and production for households and industries alike. Consumer Price Index was revealed to have an increasing effect on household welfare. This is contrary to the study's initial expectation. Rising CPI is an indicator of rising inflationary pressures which is indicative of rising costs of living, which in the long-run, culminates in worsening household welfare. The second objective examined the contribution of remittances to household welfare in Nigeria. The study revealed that remittances have a positive effect in enhancing household welfare in both short-run and long-run. Remittances have been shown to be income-augmenting, increasing the size of disposable income of households. As income rises, the standards of living of households are improved across many development indicators like shelter, health, education, among other social indicators. The finding of a negative relationship between per capita income and household welfare is contrary to a priori expectations in both short-run and long-run. As income per head rises, other things being constant, household welfare should experience an increment (income being a strong determinant of welfare). This finding though might be accountable due to a key criticism of GDP per capita as a measure of standard of living. With high income inequality in the country, the depth and breadth of multidimensional poverty would pose a challenge to being ameliorated by a per capita income that has a high variance. In addition, exchange rate was found to have a negative effect on household welfare in both short-run and long-run. This is contrary to expectations, as currency appreciation should lead to a reduction in the market prices for domestic and imported goods, increasing the purchasing power of households, and expanding their welfare. CPI showed a negative effect on household welfare from the findings of the study in both short-run and long-run. This is in consonance with the study's a priori expectations. As the general level of prices rise, households are forced to dissave to maintain a similar lifestyle; and where the problem is persistent, might witness a decline in the overall welfare of the household. The third objective of this study evaluated the causal relationship amongst foreign aid, remittances and household welfare in Nigeria. The result shows that household welfare proxied by GINI coefficient exhibits by-directional causality official development assistance (ODA) and verse versa. Similarly, technical corporation grant (TCG) exhibits by-directional causality with household welfare and verse versa. However, multilateral aid (MLA) exhibits no causation with household welfare and verse versa. In the case of bilateral aid (BLA), the series exhibit uni-directional causation with household welfare but not verse versa. Foreign aid including official development assistance, technical corporation grant, and bilateral aid has the potential of enhancing welfare of households, transforming their

educational as well as life expectancy; in turn, this can culminate in raising the profile of households, leading to increased remittances inflow. Similarly, remittances (RMT) exhibit uni-directional causation with household welfare in Nigeria but not vice versa. Remittances inflow could induce higher foreign aid flow, where the need is exigent, especially in times of man-made or natural disasters.

## 5. CONCLUSION AND RECOMMENDATIONS

### Conclusion

The study investigated the dynamics between foreign aid, remittances and household welfare in Nigeria. It then concludes that foreign aid plays a crucial role in improving household welfare in Nigeria, with ODA, MLA, and BLA showing positive and significant effects in both the short and long run. However, technical cooperation grants have a negative and insignificant impact. The study also concludes that remittances significantly enhance household welfare in Nigeria in both the short and long run. Summarily, the study concluded by noting that foreign aid and remittances are both relevant determinants of household welfare in Nigeria. Therefore, given the spate of migrations, the issue be given consideration given remittances has a robust potential of contributing to improvement in household standard of living, economic growth, and source of foreign exchange earnings.

### Recommendations

Emanating from the findings of the study, the following recommendations are proffered. These include: (i) Government through her agencies addresses the concerns of irregular migration of Nigerians. The government through its bilateral and multilateral agreements should negotiate and promote ease of migration for citizens willing to migrate in search of new career and opportunities, while highlighting the need to eliminate discrimination and right of citizens. (ii) Given remittances can play a crucial role as the source of foreign exchange inflow into the country, government, through its monetary authority can encourage remittances into the country be in international currencies, rather than conversion and the naira equivalent sent to recipients in the country. This could be done through incentivizing programs that emigrants can connect with. (iii) Most foreign aids are targeted at crisis-affected zones, or camps of displaced persons. The country can highlight key areas such as water, healthcare, and education for instance, where the impact can be longer-lasting on households and communities. Accessing foreign aid that would provide water would eliminate social stigmas that tended to prevent the girl child from accessing education on time and with the right mental state for learning.

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