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Foreign Direct Investment Inflow and Household Consumption Nexus: an Evidence from Nigeria

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Abstract

Foreign direct investment (FDI) plays a significant role in economic development, particularly in emerging economies, especially in augmenting household incomes to boost consumption. However, statistics shows a fluctuating pattern of consumption expenditure over time, indicating its erratic nature in Nigeria leading to low standards of living. The study, therefore, empirically evaluates the impact between foreign direct investments on household consumption in Nigeria from 1981 to 2023. The annual secondary time series data were obtained from the Central Bank of Nigeria (CBN) and World Bank Indicators (WDI) database, 2023 editions. A semi-log-linear ARDL model which specified final consumption expenditure of households as a function of foreign direct investment inflow, inflation rate, official exchange rate, gross domestic product per capita and trade openness was formulated. The variables were tested for stationarity using the Augmented Dickey-Fuller Structural Break Unit root test and indicates that the variables were integrated between $I(0)$ and $I(1)$. The Bounds test for cointegration analysis shows evidence of long run relationship among the variables in the model. The Autoregressive Distributed Lag (ARDL) result indicates that all the time series variables were statistically insignificant in the short run except inflation rate and gross domestic product per capita and significant in the long run except trade openness. Granger causality result reveals that there is a significant unidirectional causal relationship running from $HFCE \leftrightarrow GDPPCa$ between gross domestic product per capita and final consumption expenditure of households in Nigeria. Sequel to the findings, the study recommends, among others, that there is need for the government and relevant agencies to once again stimulate and encourage the investors' confidence in the country, by assuring the security of lives and properties through the achievement of an uncompromised security and business environment in the productive sectors of manufacturing, agricultural, etc., in the country by ensuring adequate security measures capable of quelling the traumatic experiences orchestrated by farmers-herders clashes, kidnappings, armed robbery, etc., so as to achieve a high, rapid and sustained agricultural productivity, and hence sustained economic growth.

Keywords: foreign direct investment, households' final consumption expenditure, gross domestic product per capita, Granger causality, ARDL

INTRODUCTION

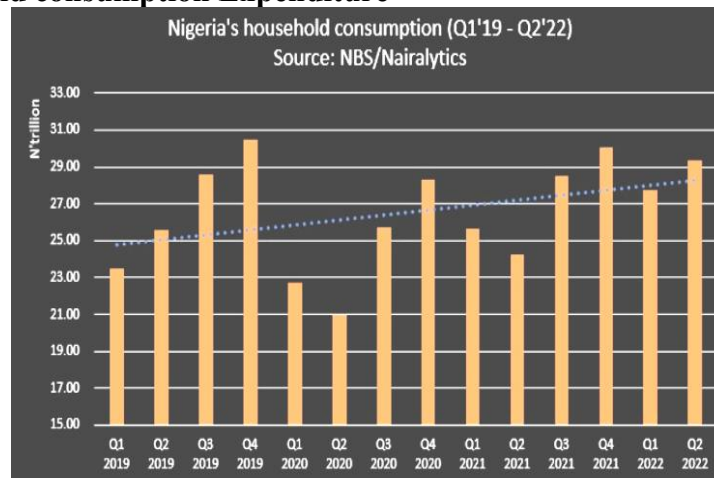
The call for stepping up the tempo of economic growth and development by many nations especially the Less Developed Countries (LDCs) has lured underdeveloped economies into making deliberate efforts to attract domestic and foreign investments (Odubola and Desalu, 2017).

Foreign direct investment (FDI) plays a significant role in economic development, particularly in emerging economies. The channeling of FDI in developing countries, such as Nigeria, has been viewed as a catalyst for growth and poverty reduction. Understanding the impact of FDI on household consumption in Nigeria is crucial for policymakers, economists, and investors. However, there has been a growing concern on the pace at which foreign direct investment inflow propels and steps up the level of household's consumption expenditures. Thus, going by stylized facts, the Nigerian Bureau of Statistics recently published its report on Consumption Expenditure Pattern in Nigeria particularly for 2019. The report shows that Nigeria's total consumption

expenditure on food and non-food items in 2019 stood at N40.2 trillion. This represents 86 percent increase from N21.6 trillion recorded in 2009/2010-almost double within a decade. The consumption figure as reported depicts the level of aggregate demand and welfare in the economy. This by extension suggests improved aggregated demand over the past ten years, which amounts to 55.8 percent share of the real gross domestic product (GDP) in 2019 (NBS, 2020).

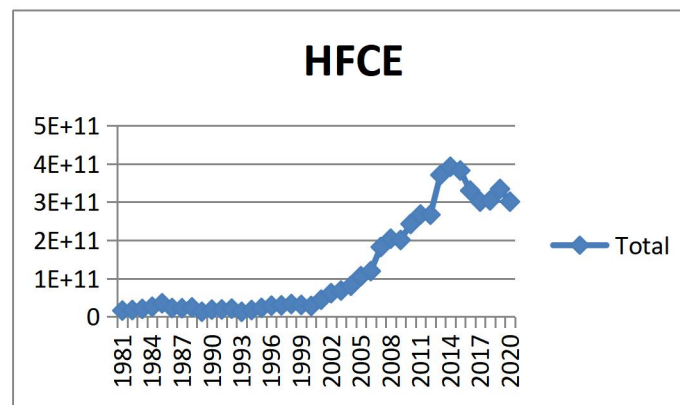
Nigerians spent more on food items than on non-food items in 2019. However, the share of food in total expenditure declined from 60.2 percent in 2009 to 56.7 percent in 2019. For non-food expenditure, its share in total expenditure increased to 43.3 percent in 2019 from 39.8 percent in 2009. This implies that food consumption gave way for more sophisticated consumption despite its dominance. This speaks volume about the evolution of Nigeria's development; as an economy moves up the ladder of development, the household consumption pattern tilts towards non-food items and the share of food expenditure shrinks. However, when Nigeria's share of food expenditure in total expenditure is compared with that of countries such as Mexico (35.3 percent–2018) and Indonesia (31.6 percent–2018), Nigeria lags behind (NBS, 2020). This, therefore, is an indication of dwindling income streams perhaps due to the increasing exits of existing foreign businesses away from the Nigerian economy as well as the recurring and potential threats by some of the remaining ones.

Figure 1. Nigeria household consumption Expenditure



In 2019, Nigerians spent a sum of N22.8 trillion across 19 food categorizations up from N13 trillion recorded in 2009. This represents a 75 percent increase in food expenditure over the past ten years. Expenditure on non-food items stood at N17.4 trillion in 2019 up by 102.56 percent from N8.6 trillion in 2009. A breakdown of total expenditures by categories shows that Food Consumed Outside of Home accounted for 11.4 percent of total consumption expenditure; and 20.2 percent of total food expenditure in 2019. The order of consumption expenditure items provides an insight into what Nigerian households spend their income on, which could be a useful guide for real sector investors/entrepreneurs and for government policymaking.

Figure 2. Trend of Households Final Consumption Expenditures indicating its fluctuating pattern in Nigeria between 1981 and 2020



The above graph defines a fluctuating pattern of consumption expenditure over time, indicating its erratic nature. Glaringly, the latest value for Household final consumption expenditure (constant 2010 US\$) in Nigeria was 380,255,000,000 as of 2020. Over the past 39 years, the value for this indicator has fluctuated between 382,505,000,000 in 2015 and 72,503,270,000 in 1983 (World Bank national accounts data, and OECD National Accounts data files, 2024). This erratic and fluctuating pattern is glaringly indicated in the graph above. The resultant effect of this erratic and fluctuating pattern maintained by the household consumption expenditures over time is the exacerbation of the poverty gap (the proportion of the citizens living below \$2/day benchmark). To correct this impression, the influx of foreign direct investment is expected to play a crucial role in determining the level and pattern of household consumption expenditures; however, the poverty gap remains widened considering the exit of existing foreign businesses from the Nigerian economy, and the discouraging effects of insurgency, corruption, policy inconsistency, etc., prevalent in the country. Premised on the above, the present study is poised to evaluate the impact of foreign direct investment on household consumption in Nigeria. The study has the following objectives: i. to evaluate impact of foreign direct investment inflow on household consumption expenditure in Nigeria. ii. to determine the direction of causality relationship between foreign direct investment inflow and household consumption expenditure in Nigeria.

This paper is organized as follows: chapter describes the introduction, chapter two deals with literature review, chapter three is concerned with the methodology, chapter four treats the results and discussion while chapter five deals with the summary, conclusion and recommendations.

REVIEW OF RELATED LITERATURE

Foreign Direct Investment

Kasim (2020) sees foreign direct investment as an investment made by an individual or a company (investor) in a country which is not the country of origin of the investor, in the form of either establishing business or acquiring business assets in the country. FDI is the extra resource a country needs in order to achieve economic growth. It is a combination of technology, marketing, capital and management. It provides a firm with new markets, marketing channels, easy admittance to new technology, skills and product, financing and production facilities. Foreign direct investment can be defined as a foreign investment that is a part or share of GDP which grows rapidly; it is turning into the largest origin of capital moving from developed countries to developing countries.

Foreign direct investment can also be seen as the degree of ownership of productive assets; this includes land, mines and factories (Omaoku and Okwori, 2019). The growing economic integration and globalization is as a result of increasing foreign investment (Gnansonuou, 2008 cited in Omaoku and Okwori, 2019). For many years direct foreign investment is in the form of machinery, building and equipment. In addition, multinational corporations make a large percentage of Foreign Direct Investment (Uremadu, Umezurike, and Odili, 2016).

Household Consumption Expenditure

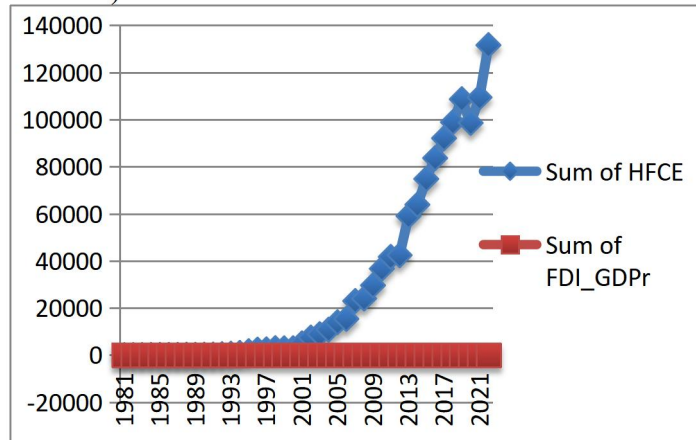
Consumption is the act of using resources to satisfy current needs and wants. It is seen in contrast to investing, which is spending for acquisition of future income (Bannock and Baxter, 2011). Consumption is a major concept in economics and is also studied in many other social sciences (Black, Hashimzade and Myles, 2009). Additionally, household final consumption expenditure (POES) is a transaction of the national account's use of income account representing consumer spending. It consists of the expenditure incurred by resident households on individual consumption goods and services, including those sold at prices that are not economically significant. It also includes various kinds of imputed expenditure of which the imputed rent for services of owner-occupied housing (imputed rents) is generally the most important one. The household sector covers not only those living in traditional households, but also those people living in communal establishments, such as retirement homes, boarding houses and prisons.

The above given definition of HFCE includes expenditure by resident households on the domestic territory and expenditure by resident households abroad (outbound tourists), but excludes any non-resident households' expenditure on the domestic territory (inbound tourists). From this national definition of consumption expenditure may be distinguished the household final consumption expenditure according to the domestic

concept which includes household expenditure made on the domestic territory by residents and inbound tourists, but excludes residents' expenditure made abroad.

Trend Analysis

Figure 3: The Combined Trend of Household Consumption Expenditure and Foreign Direct Investment Inflow-to-GDP Ratio in Nigeria (1981-2022)



Source: Authors' compilation and computation using Excel Worksheet

The figure above depicts the trajectory of the upward and downward swings in the movement of foreign direct investment inflow as a percentage of GDP and household consumption expenditure in Nigeria. From the above figure, it is very lucid that despite the upward sloping line graph showing the extraordinary or heightened effect of running inflation in the Nigerian economy over time, making the affordability of dailies and human needs almost impossible, the inflow of foreign direct investment is at its steep; stagnated. This could largely be attributed to the unattractive nature or look of the various sectoral growth-drivers of the Nigerian economy including the manufacturing, agriculture, etc., sectors to the foreign direct investors. And couple with the hostile nature of the Nigerian economy orchestrated by the poor economic growth policies often pursued the various administrations cum high rate of insecurity in the country, which rather end up scaring away potential foreign direct investors and at the same time, pursuing the existing foreign businesses out the Nigerian economy.

Empirical Review

Domestic/Local Studies

Usman and Idris (2022) investigate the effect of government final consumption expenditure; financial deepening on households, non-profit institutions serving households (NPISHs) final consumption expenditure using data on Nigeria spanned 1981 to 2019. This study employed vector error correction model (VECM). The results of the study reveal that the coefficient of government final consumption expenditure has a positive effect on household consumption expenditure in the long run. There is a long run and short run relationship between gross fixed capital formation and household consumption expenditure. Also, the coefficient of FDI has a positive effect on household final consumption expenditure in the long run. The implication for policy is that government final consumption expenditure stimulates household consumption expenditure positively thus cannot be underscored hence a realistic policy driven towards increasing government final consumption expenditure is strategic to increasing effective and consumption as well. Therefore, this study recommends that Gross fixed capital formation stimulates household consumption expenditure, a legal framework to support investment is a panacea to increasing household income, consumption and reduce poverty in Nigeria. Therefore, this should be a key central component for policy.

Orjiakor and Onyia (2022) examined the effect of foreign direct investment on economic growth of Nigeria, 2000-2020. The study adopted multiple regression of the ordinary least squares technique. GDP was used as the dependent variables against the explanatory FDI. Findings of the study reveal that a long run relationship exists among the variables. Also, the major finding of the study showed that FDI has a significant positive effect on

GDP (economic growth) in Nigeria. Based on the finding of the study, it was recommended that the government and the policy makers should create more avenues to attract foreign investors into the country which will in turn enhance technology transfer, and more job opportunities, and increase productivity in the economy.

Okwu, Akpa, Oseni and Obiakor (2020) in a recent study explored the effect of export on household consumption expenditure using data on Nigeria spanned 1981 to 2016 and applying the ARDL. The result of the study revealed a positive relationship between export and household consumption expenditure.

Kasim (2020) examined the impact of foreign direct investment on economic growth in Nigeria for the periods 1989 to 2019. The variables for which data were sourced for the analysis were real gross domestic product, gross domestic investment, foreign direct investment, interest rate and unemployment rate for the period chosen. The ARDL Bounds testing was used to check for the existence of long run relationship between the variables. The study concluded that there is no significant impact on economic growth by foreign direct investment in Nigeria. Based on the findings revealed by the study, it is recommended that Nigerian economy should improve the investment climate for existing domestic and foreign investors through infrastructure development.

Sule (2019) analyzes the relationship between consumption and investment expenditure on economic growth in Nigeria using the Keynes principle of effective demand for the period 1971-2016. The study adopted descriptive statistics and the Autoregressive Distributive Lag (ARDL) method for its analysis. The findings show that household consumption expenditure, government consumption expenditure, public investment expenditure, have a positive and significant relationship with economic growth while, private investment expenditure do exert a positive but insignificant effect on economic growth. On the basis of the research findings, the study recommends that the loan-able funds at low interest rate should be made accessible for individuals and corporation towards investment.

Omaku and Okwori (2019) evaluated the nature and impact of foreign direct investment on Nigerian economic growth, between the periods of 1981 to 2017. Using time series data, econometric techniques like ADF Unit Root Test, Granger Causality test and ARDL Bound test were employed. It was found that there is a long run, though negative, relationship between FDI and economic growth in Nigeria, and that FDI unidirectional granger causes economic growth. The study concluded that there is a long run and negative relationship between FDI and economic growth in Nigeria. The study therefore recommends that government provides a sound macroeconomic policy that ensures proper utilization of foreign direct investment, in addition to comprehensive adjustment of macroeconomic policies to achieve and maximize the expected positive impact of FDI on Nigerian economic growth.

Odubola and Desalu (2017) analyzed the impact of foreign direct investment and domestic investment on economic growth in Nigeria between 1985 and 2015. A model was developed to capture the effect of foreign direct investment, domestic investment, exchange rate and inflation rate on economic growth within the sampled period. The model was estimated using the ordinary least squares technique via the multivariate regression analysis. Results revealed that foreign direct investment has not contributed significantly to economic growth in Nigeria. Furthermore, it was equally discovered that domestic investment adversely affected growth within the period. The study therefore suggested that particularly vital for investment is macroeconomic stability and consistent policies. A good macroeconomic record includes high growth, a single-digit inflation rate, low rate of interest and relative stability in the real exchange rate.

Jibir and Abdul (2017) examined the foreign direct investment and economic growth nexus in Nigeria with the used of dataset from Central Bank between the period of 1970 to 2014. The technique and the model used were Granger Wald test and Vector Error Correction Model (VECM). The study reported that there was long run relationship between foreign direct investment and economic growth in Nigeria. Also, the Granger causality result showed that there was unidirectional causality between trade openness and economic growth. The study noted that FDI is an instrument for transforming economic growth and development. However, in attracting more inflow of foreign direct investment a conducive business environment must be created.

Sunday and Ango (2017) examined the impact of foreign direct investment on economic growth in Nigeria with the use of quarterly secondary time series data for the period of 2009Q to 2016Q. The method and the model used were Autoregressive Distributed Lag (ARDL) Granger causality test and Vector Error Correction model. The study reported that there was a long run relationship between foreign direct investment and economic growth in Nigeria. Also, the Granger causality test result showed unidirectional causality relationship between foreign direct investment and economic growth in Nigeria. The study recommends that the policy makers in Nigeria should create an enabling environment for easy operation of business to attract inflow of Foreign Direct Investment in the nation.

Sunday, Blessing, and Odike (2016) empirically investigated the impact of foreign direct investment on the growth of Nigerian economy over the period, 1981-2014. The study captured foreign direct investment (FDI), government capital expenditure (GCE), exchange rate (EXR), interest rate (IR) and growth domestic product (GDP) proxied for economic growth. It employed econometric tools of unit root test, co-integration and error correction model to analyze the influence of these variables on economic growth. The study found that FDI has significant positive impact on the growth of Nigerian economy. The study therefore recommends that government should ensure stability in the economy in order to attract more foreign direct investment.

Osemene, Kolawole, and Olanpeleke (2016) examined the determinants of FDI and its causal effect on the economic growth of Nigeria. The study used co-integration test and vector error correction model on the time series data collected from 1984 to 2015. The study revealed that foreign direct investment is negatively related to economic growth, export, inflation and interest rate while foreign direct investment is positively related to exchange rate and import. All these variables were statistically significant in determining FDI in Nigeria. The study concluded that FDI has a positive impact on the growth of Nigerian economy. Hence, it is recommended that government of Nigeria should promote import liberalisation through the reduction of tariffs; reduce the importation of consumable and intermediate goods and encourage the local industries to produce such goods.

Uremadu, Umezurike and Odili (2016) investigated the impact of foreign direct investment on economic growth in Nigeria with the use of annual time series data from 1981 to 2013. The method and model used was ordinary least squares technique and the vector error correction model. The result of the study shows that foreign direct investment has positive long run relationship and significant impact on economic growth in Nigeria. The study recommends policies on non-oil sector such as Agriculture, Mining and industrial sector to boost the economic activities in nation.

Aliyu (2015) investigated the impact of foreign direct investment (FDI) on economic growth in Nigeria from 1981 to 2009, using the multiple regression technique. The study found that foreign direct investment positively, strongly and significantly influences the economic growth of Nigeria. It is however recommended that Nigeria should improve on its foreign direct investment as this will go a long way in improving on her Economic growth.

Foreign/International Studies

Monika and Sandra (2023) in their study focused on the United States to analyze whether there is a positive correlation between the volume of FDI inflows and the growth of gross domestic product (GDP). A multiple linear regression (MLR) model was used to examine the effects of various exogenous control variables on the quarterly GDP growth in the USA from 1999 to 2022. During these 96 quarters, FDI was found to have a positive effect on GDP growth at statistical significance of 5% ($p < 0.05$). Specifically, a one-million increase in FDI ceteris paribus caused an estimated GDP growth of approximately 743.43 dollars. The results ultimately propose positive implications for less developed countries that could utilize emphasizing their FDI management policies to achieve higher economic growth.

Mwitta (2022) uses the vector error correction model (VECM) to analyze the impact of foreign direct investment (FDI) on Tanzania's economic growth rate. This paper aims to ascertain if inflows of foreign direct investment impact positively or negatively, the real GDP growth rate in the long run. Time series annual data of

relevant macroeconomic variables have been used from 1990 to 2020. The paper revealed a statistically significant positive association between real GDP growth rate and FDI inflow to GDP ratio. On the other hand, the study revealed a negative correlation between gross fixed capital formation to GDP ratio and the real GDP growth rate which may be caused by the current situation of public investment. In order to promote sustainable and inclusive economic growth in Tanzania, it is suggested in this paper that the government continues upgrading its policies regarding inward foreign direct investments, public investment, and the export sector.

Yankson (2021) investigates the impact of foreign direct investment (FDI) inflow on household consumption expenditure in Ghana using secondary data on foreign direct investment, trade openness, human capital, and household consumption ranging from 1975 to 2016. The model was estimated using the ordinary least squares (OLS) technique. The findings reveal that, foreign direct investment has an adverse influence on household consumption in the country. Based on the findings, the study recommends that the state should redirect juicy policies and incentives given to foreign direct investors to develop human capital.

Anetor, Ebes, and Grietjie (2020) in their study used data from twenty-nine countries in Sub-Saharan Africa between the period 1990–2017 to analyze the effects of FDI, trade, and foreign aid on poverty reduction in a single model using the Feasible Generalized Least Square (FGLS) technique. The results show that FDI and foreign aid have a negative effect on poverty reduction in the countries studied. These results suggest that the level of FDI required to alleviate poverty has not been reached, and foreign aid have not been properly channeled. However, the results show that trade has a positive and significant impact on poverty reduction, especially in low-income countries.

Nguea, Noumba, and Noula (2020) investigate the impact of foreign direct investment (FDI) on poverty reduction in Cameroon from on the period 1984-2014. Auto-regressive distributed lags (ARDL) bounds test approach to co-integration has been applied to analyze the data extracted from freedom house and World Development Indicators (WDI). Three poverty reduction proxies namely life expectancy, per capita household consumption expenditure and infant mortality rate are used to capture multidimensional feature of poverty and to increase the robustness of the results. The findings revealed that the impact of FDI to alleviate poverty is less significant in Cameroon as evidenced by one out of three (infant mortality) poverty reduction proxies where a short-run positive impact of FDI on poverty reduction is confirmed. These findings suggest that Cameroon may use FDI as a short-term poverty reduction instrument.

Anh, Cuong , and Thu (2019) examine the impact of foreign direct investment on household and individual welfare and on migration in Vietnam, using survey data for the period 2002 to 2016. The study found that higher revenue from foreign invested firms measured at province level and normalized on population is associated with a variety of positive outcomes. At household level, income and expenditures per capita are higher and poverty incidence is lower. At individual level, non-farm employment and wages are higher. And at commune level, in-migration is higher. However, although these improvements register as statistically significant, the magnitudes in economic terms are modest.

Ijirshar, Anjande, Fefa, and Mile (2019) employed the dynamic panel models; pooled mean group (PMG) and mean group (MG) estimators to assess the growth-differential effects of foreign direct investment (FDI) and domestic investment (DI) among 41 selected African countries from 1970 to 2017. The result of Hausman test shows that PMG estimator is preferred. The study found that FDI and DI are important grease for growth of African countries in the long-run. The study also found that inflows of FDI crowds-in DI in Africa and that there is significant difference in the growth effects of foreign direct investment and domestic investment while the joint effects of foreign direct investment and domestic investment on growth of African countries is found to be statistically significant. The study recommends that African governments should continually encourage domestic savings and investment as major source of growth and only consider FDI as a growth supplement.

Anika (2019) examined the role of household consumption and the import of consumption goods as transmission channels between GDP growth and foreign direct investment (FDI) in Bulgaria during the period between 1999 and 2015. The investigation carried out using descriptive and econometric analysis illustrates

strong short and long-run causal relationships among variables and confirms significant effect of household consumption and FDI on economic growth.

Susilo (2018) examines the impact of foreign direct investment on economic growth in the United States by multiple linear regression model and its estimation using ordinary least squares (OLS). This research classifies all the sectors to be 10 sectors. This research uses data for the period 2000–2017 and suggests that not all forms of foreign investment seem to be beneficial to host economies. Some sectors provide positive correlation to economic growth and some provides negative effect. Nevertheless, it is significant yet, this is because there is different characteristic between developed and developing countries. Economic growth in the U.S is mostly driven by personal consumption.

Tsaurai (2018) explored whether the complementarity between foreign direct investment (FDI) and natural resources availability led to poverty reduction in Southern and Western African nations using panel data analysis (fixed effects, random effects, pooled ordinary least squares (OLS) and dynamic generalised methods of moments (GMM) with data spanning from 2002 to 2012. Three measures of poverty were used in the current study, namely life expectancy at birth, total (years), household consumption expenditure as a ratio of gross national product and mortality rate and infant (per 1000 live births). Generally, all the four panel data analysis methods produced similar finding: the interaction between FDI and natural resources reduced poverty levels in African countries studied. Southern and Western African nations are therefore urged to implement FDI enhancement policies which attract foreign investors into the natural resources extraction sector if they want to sustainably reduce poverty.

Magombeyi and Odhiambo (2017) in their study used data on South Africa to explore the effect of FDI on household consumption expenditure for the period spanned 1980 to 2014. The study applied the autoregressive distributed lag approach, the result of the study revealed that FDI has a positive effect on household consumption expenditure.

Bonsu and Muzindutsi (2017) investigated the macroeconomic determinants of household consumption expenditure in Ghana. This study used a multivariate cointegration approach to analyse the macroeconomic determinants of household consumption expenditure in Ghana covering the period of 1961 to 2013. The cointegration analysis revealed a significant long-run relationship between real household consumption and selected macroeconomic variables with a marginal propensity to consume of less than one. Granger causality, impulse response analysis and variance decomposition showed that, in the short run, household consumption is only affected by changes in price levels, while it has a significant effect on the real exchange rate and real economic growth.

It is apparent, however, from the literatures, that the majority of the previous works such as Yankson (2021), Anh, Cuong , and Thu (2019), Anika (2019), Magombeyi and Odhiambo (2017), etc., reviewed utilized obsolete time series observations which cannot speak volume of the contemporary dynamics in the economic activities in the country considering the wave and grave consequences of the recent global pandemic and business cycles. Thus, this is considered wanting. Therefore, the present study builds on this observed gap to achieve this feat.

The adoption of the Keynesian theory as the theoretical foundation on which the model specification is based is necessarily one of the beauties of this research, as the discussion of household consumption (a good measure of poverty) is truly difficult without disposable income.

Furthermore, the relevance of gross domestic product per capita (a crucial proxy for disposable income) as a key variable in determining the impact of foreign direct investment on household consumption in Nigeria was neglected by previous researchers. Consequently, the current study incorporates GDP per capita as a key variable in the model.

METHODOLOGY

The unit root test for stationarity and descriptive statistics are two of the preliminary tests that are performed on the time series variables that are used to ascertain the connection between the variables. The Autoregressive Distributed Lag Model (ARDL) is used to estimate the parameters for the selected model. Additional post-estimation tests were performed to ensure the rationality of the findings.

Both the short-term dynamics and the cointegration (long term) connection between the regress and regressors are examined using the Autoregressive Distributed Lag (ARDL) Bounds testing system. The bounds test is a better cointegration method than the Johansen techniques method. According to Pesaran, Shin, and Smith (2001), the bound test is essentially calculated using Ordinary Least Squares to compute an estimated error correction version of the Autoregressive Distributed Lag (ARDL) model by Ordinary Least Squares (OLS) estimator. The hypothesis that there is no cointegration among the variables will be tested against the possibility that there is cointegration among the variables using an F-test of the joint significance of the coefficients of the lagged levels of the variables.

Either way, the F-test has a nonstandard distribution for the variables: 1(0) or 1(1). Two sets of adjusted critical values—the lower and upper bounds—are presented by Pesaran, Shin, and Smith (2001). Whereas the other set assumes that all variables are 1(1), the first set assumes that all variables are 1(0). The illogical hypothesis of no cointegration would be rejected if the calculated F-statistic is greater than the upper bound critical value. However, if it falls below the lower bound, then the null would not be rejected. Finally, if it falls between the lower and upper bound, then the result would be uncertain. The equation for the ARDL bounds test model is specified as follows:

$$\Delta \text{LogHFCE}_t = \alpha_0 + \sum_{i=1}^p \alpha_1 \Delta \text{LogHFCE}_{t-i} + \sum_{i=1}^p \alpha_2 \Delta \text{FDI_GDP}_{t-i} + \sum_{i=1}^p \alpha_3 \Delta \text{INFR}_{t-i} + \sum_{i=1}^p \alpha_4 \Delta \text{EXCR}_{t-i} + \sum_{i=1}^p \alpha_5 \Delta \text{LogGDPPCa}_{t-i} + \sum_{i=1}^p \alpha_6 \Delta \text{OPN}_{t-i} + \beta_1 \text{FDI_GDP}_{t-1} + \beta_2 \text{INFR}_{t-1} + \beta_3 \text{EXCR}_{t-1} + \beta_4 \text{LogGDPPCa}_{t-1} + \beta_5 \text{OPN}_{t-1} + \text{ECM}_{t-1} + \mu_t \dots\dots\dots (1)$$

RESULTS AND DISCUSSION

Short-term and long-term direct relationships

Variables	Coef	SE	T-stats.	Variables	Coef	SE	T-stats.
AUTOREGRESSIVE DISTRIBUTED LAG (ARDL) MODEL ESTIMATES							
Short-run				Long-run			
<i>FDI_GDP</i>	-0.037	0.037	-0.98	<i>FDI_GDP</i>	0.037	0.077	4.77***
<i>INFR</i>	-0.003	0.001	-2.23***	<i>INFR</i>	-0.029	0.004	-6.68***
<i>EXCR</i>	0.001	0.001	1.42	<i>EXCR</i>	0.006	0.001	4.08***
<i>LogGDPPCa</i>	0.622	0.130	4.76***	<i>LogGDPPCa</i>	1.181	0.142	8.28***
<i>C</i>	16.45						
<i>CointEq(-1)</i>	-0.69						

Source: Author's computation using EViews 13.0

The suppositions detailed previously in this study stood tested using the combinations of ARDL and Granger causality models or econometric techniques. In reaching a conclusion, the following procedures were heeded; A. the test results were presented and analyzed and, B. the suppositions were reaffirmed in null and alternate forms, C. the decision rule involving the rejection or acceptance of the null hypothesis based on the decision criterion of the techniques of analysis was made.

The outcome of the examination is the focus of discussion in accordance with the research objectives and in response to the research questions.

Objective One: To evaluate impact of foreign direct investment inflow on household consumption expenditure in Nigeria.

In consonance with this objective and using the ARDL model to test the hypothesis, the findings revealed that foreign direct investment inflow to-GDP ratio (FDI_GDP) exerts a substantial long-term positive, but an insubstantial short-term negative influence on final consumption expenditure of households in Nigeria over the

period under study. The negative relationship that exists between foreign direct investment inflow to-GDP ratio and final consumption expenditure of households in the short run implies that for any increase in the level/value of foreign direct investment to-GDP ratio there is an economic loss in terms of declining household incomes (as in the circular flow of income), increasing unemployment rate, low standard of living, decreasing aggregate demand leading to shortage of total output engineering low productivity. It, therefore, follows that foreign direct investment inflow is a phenomenon that affects the private sector (private individual/households), their purchasing powers, as well as the overall performance of the economy.

It is observed from the long run co-integration estimate above that foreign direct investment inflow to GDP-ratio had a positive and significant effect on final consumption expenditure of households, and hence economic growth in Nigeria. Appositely, this is in conformity to a priori expectation, the result however is not surprising in the case of Nigeria. This is because, in recent time, the Nigeria economy has experienced a surge in the crude oil production following the Ukraine-Russian war, and thus boosts the income generating strength of economy from the oil sector. The implication of this is that the productivity growth in the economy is sensitive to the oil rent proceeds in the economy. Thus, profound economic growth and development is the result, if these proceeds are to be efficiently spent in developing the other long neglected potential sectors of the economy including agriculture and manufacturing, there would be a plausible increase in the employment potential of the economy, increasing incomes of the households, increasing purchasing powers, etc. With respect to other explanatory variables, it was observed that trade openness had a significant-negative impact on final consumption expenditure of households with coefficient value of -0.07 per cent in the short run respectively.

On the other hand, inflation rate has a significant negative impact on final consumption expenditure of households in the short run. The implication of the above result is that a percent increase in trade openness and inflation rate invariably translates to insignificant and significant declines in final consumption expenditure of households respectively in the Nigerian economy. Clearly, official exchange rate and gross domestic product per capita had were seen to be significant in determining the final consumption expenditure of households in the long run in Nigeria, whereas inflation rate has a significant negative relationship with final consumption expenditure of households in the long run, and trade openness has an insignificant negative relationship with final consumption expenditure of households in Nigeria during the period under review. The implication of this is that a one per cent increase in official exchange rate and gross domestic product per capita significantly engineers and spurs productivity which further translates into an increasing final consumption expenditure of households; which in turn boost s and increases their standards of living in the long run. However, as per inflation and trade openness, these variables could be seen to significantly stampede final consumption expenditure of households in the long run in Nigeria within the period under study.

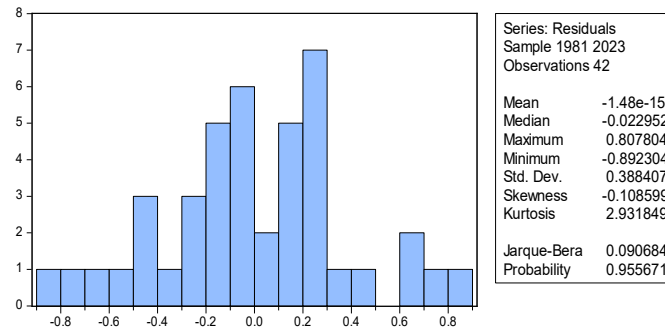
Objective Two: To determine the direction of causality relationship between foreign direct investment inflow and household consumption expenditure in Nigeria.

In accordance with this objective and using conventional Granger causality model to test the hypothesis, the discovery indicated no causality relationship between all the explanatory variables and final consumption expenditure of households (HFCE), within the period under the study, except gross domestic product per capita. This is evident in their probability values (p -values = 0.0918 & 0.7781; 0.2678 & 0.0932; 0.3985 & 0.1874, 0.3905 & 0.3244) which are greater than 0.05, except that for gross domestic product per capita (0.0599) which is equal to 0.05. This implies that all the modelled independent variables have no any significant causal relationship with final consumption expenditure of households in Nigeria within the period under review, except gross domestic product per capita which was shown to exhibit a significant unidirectional causal relationship running from HFCE to GDPPCa between gross domestic product per capita and final consumption expenditure of households. From the foregoing, it suffices to say that the past values of both FDI_GDP_r, INFR, EXCR and OPN are inadequate in forecasting the future values, trends and prospects of HFCE; similarly, the past values of HFCE is not sufficient enough to forecast the future values, trends and prospects of FDI_GDP_r, INFR, EXCR and OPN in Nigeria.

However, while the past value of LogGDPPCa is not sufficient enough to forecast the future values, movements and prospects of HFCE, the past value of HFCE is stable enough to forecast the future value of HFCE in Nigeria.

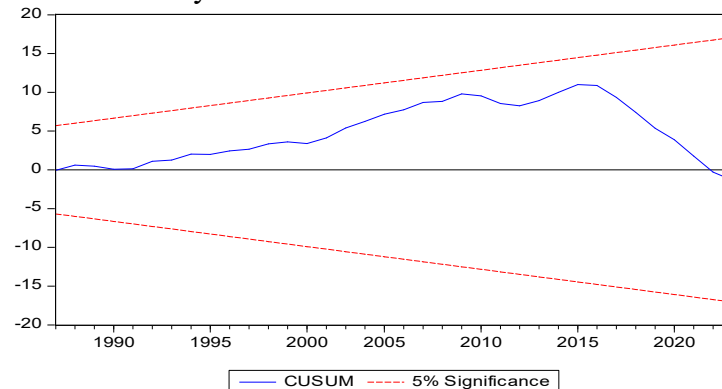
For the Diagnostics Test results, the BG-LM depicts the test for higher autocorrelation. The insignificant p-value of the BG-LM test shows that there was no higher autocorrelation for the chosen ARDL model. HET (BPG) entails the test for heteroscedastic residuals. The insignificant p-value of the BPG (HET) test meant that the chosen ARDL model was without heteroscedastic residuals. The Regression Equation Specification Error Test (RESET) being insignificant implies that the ARDL model was without misspecification.

The Jarque-Bera Test of normality of the residuals, which had its probability value (0.955671) to be greater than 0.05 indicated that the residual maintained a normal distribution; otherwise, they were normally distributed. See figure 1 below.



The CUSUM graph which was helmed between two dotted red lines provides indication in courtesy of parameter firmness which showed that the CUSUM test demonstrated that the models were stable as depicted in Figure 2 below;

Figure 1.1: Stability Test Result



In a nutshell, the models were best, linear and unbiased. This is due to the R^2 goodness test of fit. There was no higher autocorrelation, alluding the diagnostics tests, specifically the BG-LM test. The lack of heteroscedastic residuals in the outcome was demonstrated by the BPGs' insignificance.

CONCLUSIONS AND POLICY RECOMMENDATIONS

The external sector of the Nigerian economy vis-à-vis foreign direct investment has experienced a stalled growth recently, which has caused alarming uproars, hunger/destitution, lags of expansions and degrades of foreign firms/companies, low incomes to the households, increasing unemployment rate, low productivity, high rate of importation, phasing out of local commodities by their foreign counterpart products. Thus, this could be attributable to certain constraints posing grievous threats to the sector, including low domestic private savings, over-reliance on the fortunes of crude petroleum (the Resource Curse issue) as the principal foreign exchange earner, oil spillages, the perilous consequences of fuel subsidy, erratic currency movements, low consumer purchasing power, loss of investors' confidence, corruption, etc. The study examined the relationship between foreign direct investment and household consumption in Nigeria with the application of correlation analysis technique, bounds test cointegration analysis, auto-regressive distributed lag model (ARDL), and various

diagnostic test techniques in analyzing the annual secondary time series data spanning from 1981 to 2023, which were extracted from the 2023 editions of both the Central Bank of Nigeria Statistical Bulletin and World Bank Indicators Database. The descriptive statistics result of this study demonstrates that the datasets for the variables (LogHFCE, LogGDPPCa & OPN) were normally distributed, whereas (FDI_GDP_r, INFR & EXCR) were not normally distributed, given their probability values of Jarque-Bera. The results of unit root test suggest that the variables in the model are integrated between orders 1(0) and 1(1) as summarized in Table 4.3. The ARDL Bounds Cointegration test found the existence of long run relationship between final consumption expenditure of households, foreign direct investment to GDP-ratio, inflation rate, official exchange rate, gross domestic product per capita and trade openness. In a nutshell, the above results (especially the R-squared) indicate that there is very clear evidence of the modelled exogenous variables to be regarded as relatively the key foreign direct investment inflow determinants of final consumption expenditure of households; hence economic growth in Nigerian over the period studied.

This is evidenced in the manner of interactions or responses amongst the variables. To say the least, therefore, these exogenous variables, which are truly macroeconomic variables and international/foreign aid drivers of economic growth of any progressive economy, need be given painstaking attention by the government via various restriction policies so as to help improve the economic growth, via an impressive record of GDP growth rate and household consumption expenditure pattern.

Finally, there is a significant unidirectional causal relationship running from HFCE↔GDPPCa between gross domestic product per capita and final consumption expenditure of households. This implies that final consumption expenditure of households has a significant unidirectional causal-and-effect relationship with gross domestic product per capita in Nigeria.

The research envisages stimulating foreign direct investment inflow embedded on stable exchange rate, trade openness and suitable economic environment not only in Nigeria but across other developing and developed economies.

As evidenced by the revelations in the research, the under-listed policy recommendations are put forward:

From the analysis, the variables in the model exhibit a long term relationship. Therefore, it is imperative to discourage the obvious incessant importation of commodities into the shores of Nigerian economy via a robust attraction and sustenance of foreign direct investment inflow. This will help to increase exports, strengthen the foreign exchange rate value of the domestic currency, reduce inflation, increase per capita income, and encourage the attraction more potential investors, etc.

There is need for the government and relevant agencies to once again stimulate and encourage the investors' confidence in the country, by assuring the security of lives and properties through the achievement of an uncompromised security and business environment in the agricultural sector in the country by ensuring adequate security measures capable of quelling the traumatic experiences orchestrated by farmers-herders clashes, so as to achieve a high, rapid and sustained agricultural productivity, and hence sustained economic growth.

Finally, the government should embark on policy that will reduce the number of imported food items drastically and encourage local production and consumption to encourage domestic agro-allied industries; these will reduce unemployment and inflation in Nigeria and increase output, and hence economic growth.

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