9th Multi-disciplinary
Conference on

# African Development Policies

University of Nigeria,
Nsukka, Nigeria

# CONFERENCE PROCEEDINGS

**Theme: Addressing Challenges & Development Administration in Emerging Economies:**
*Multi-disciplinary Discussion*

**26TH - 27TH JUNE, 2024**

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# 9TH MULTI-DISCIPLINARY CONFERENCE ON AFRICAN DEVELOPMENT ANALYSIS

**THEME**
Addressing Challenges & Development Administration in Emerging Economies: Multi-disciplinary Discussion

**DATE**: Thursday 27th - Friday 28th June, 2024
**TIME:** 9:00am

**CONFERENCE LOC**
**Ekekwe, Ezinwanne**
Social Sciences Unit, School of General Studies
University of Nigeria, Enugu Campus

**CONFERENCE PEER REVIEW PANEL**


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# 9TH MULTI-DISCIPLINARY CONFERENCE ON AFRICAN DEVELOPMENT ANALYSIS

## CONFERENCE PROGRAMME

**DAY ONE:** **Thursday 27th June, 2024**

| | |
|---|---|
| Conference Briefing via Google Meet | - 9:00am - 9:30am |
| Online Visual Presentation via Google Meet | - 9:30am - 1:00pm |
| WhatsApp Video Presentations | - 3:00pm - 4:00pm |

**DAY TWO:** **Friday 28th June, 2024**

| | |
|---|---|
| Conference Briefing via Google Meet | - 9:00am - 9:30am |
| Online Visual Presentation via Google Meet | - 9:30am - 1:00pm |
| WhatsApp Video Presentations | - 3:00pm - 4:00pm |

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3. The Conference Professional Peer Review Editorial Panel (CPPREP) will meet 2 weeks after the league conference to review papers. This usually takes one week, after which the papers are forwarded to Google scholar International Standard Peer Review Research Council for professional and disciplinary blind peer review and plagiarism check. Usually this takes about 3 weeks.

4. Letter of Papers Acceptance and Journal Publication will be issued to author(s) on the 6th week after the conference. Acceptance will be in three forms:

   a. After peer review, papers with less than 50% accuracy level will be rejected. Author(s) will be required to re-write the paper based on observations.

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5. On acceptance of paper for publication, author(s) will be required to make PAYMENT for paper publication/ pagination (hard print and online) and courier. Payment must be done within 2 weeks of notification of acceptance. Authors will receive their published journals within 10 weeks after the conference.

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# EXCHANGE RATE VOLATILITY AND MANUFACTURING SECTOR EXPORTS IN NIGERIA

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## Abstract

*This study examined the impact of exchange rate volatility on the manufacturing sector export in Nigeria. Data for the study were sourced from the Central Bank of Nigeria Statistical Bulletin and the National Bureau of Statistics over the period 1980 to 2021. The study used the Autoregressive Distributed Lag Model and examined the long run and short run effects of exchange rate volatility on the performance of the manufacturing sector export in Nigeria. The estimated results revealed that exchange rate volatility had positive and statistically significant impact on manufacturing sector export in Nigeria in the long run. Based on the findings of this study, it was concluded that exchange rate volatility had significant impact on manufacturing sector export in Nigeria. The study therefore recommended among others that the government and policy makers should evolve policies that stabilize the naira by reducing or totally removing the arbitrage between the parallel markets and the official markets. More so, the study also recommended that manufacturers who rely heavily on imported raw materials that cannot be easily sourced locally should be made to access the exchange rate at the official rate with ease in order to increase the manufacturing sector output for export.*

**Keywords:** *Exchange Rate, Volatility, Manufacturing sector, export, Nigeria*

## Background to the Study

The Nigerian government has prioritized diversifying the economy beyond its dependence on oil exports. The manufacturing sector plays a crucial role in this strategy, with the potential to create jobs, generate foreign exchange, and stimulate economic growth. However, achieving this goal requires addressing significant challenges. One key obstacle is the volatility of the exchange rate, which creates uncertainty for businesses and hinders export competitiveness. Exchange rate is a significant macroeconomic variable because its depreciation or appreciation has negative or positive repercussions on all the sectors of the economy especially the manufacturing sector (Odili, 2014; Aizenman & Marion, 1999). Through international trade among countries, economies have experienced periods of exchange rate fluctuations, slower growth among others (Todaro & Smith, 2008) and this has exposed many developing countries to periods of imbalances. Exchange rate fluctuations do not only affect economic growth but also the performance of firms. For instance, exchange rate depreciation increases the cost of imported capital goods for manufacturing firms and this result to a fall in domestic investment among others.

Nigeria's economy has historically been heavily dependent on oil exports, which constitute a substantial portion of government revenue and foreign exchange earnings. This dependency has exposed the economy to global oil price fluctuations, which, in turn, have significantly influenced the exchange rate of the Naira. Periods of high oil prices typically lead to an appreciation of the Naira, while oil price crashes result in depreciation. This volatility has profound implications for other sectors of the economy, particularly manufacturing. Since the mid-1980s, Nigeria has undergone various economic reforms aimed at liberalizing the economy and improving its global competitiveness. Key among these reforms was the Structural Adjustment Program (SAP) of 1986, which aimed to diversify the economy away from oil dependence, deregulate the exchange rate, and promote non-oil exports. Despite these efforts, the exchange rate regime has oscillated between fixed, floating, and managed float systems, contributing to exchange rate instability. The Central Bank of Nigeria (CBN) also has implemented several measures to manage exchange rate volatility, including interventions in the foreign exchange market, adjusting interest rates, and maintaining foreign exchange reserves. However, these measures have met with varying degrees of success, and exchange rate volatility remains a persistent challenge.

Despite the recognized importance of exchange rate stability for economic development, the Nigerian economy has witnessed periods of pronounced volatility, characterized by sharp fluctuations in the value of the naira against major currencies such as the US dollar, euro, and pound sterling. For instance, the naira has kept on depreciating from N 0.54 in 1980 to N 2.02 in 1986, and N7.901 in 1990, all against the one US dollar. The policy of deregulation pegged the naira at N21.886 in 1994, N 86.322 in 1999 and N135.50 in 2004. Thereafter, the exchange rate appreciated to N132.15 in 2005 and N 150.00 in 2009. In 2015 the exchange rate of a US dollar to naira is N165. But after the 2015 general election and the swearing-in of President Muhammadu Buhari, the rate of exchange of Nigeria naira to the United States Dollar has been alarming. For instance, in October 2016, the exchange rate of one US dollar to naira in the parallel market is N 500.00 (George-Anokwuru, Obayori & Oriji, 2018). Similarly, the naira has depreciated against the U.S dollar by more than 113% by the end of 2013 and at the end of 2018 about N363 was exchanged for one U.S dollar; reaching its peak in 2023 and 2024 at N786 and N1,450 respectively exchanged to one U.S dollar

(Gbosi, 2024). Thus, the weak value of the naira to the US dollar distorted the growth of the economy and the manufacturing sector in particular. These fluctuations have been exacerbated by factors such as fiscal imbalances, external debt pressures, inconsistent monetary policies, speculative activities in the foreign exchange market, and limited forex reserves (Stancik, 2007). Each of these factors has varying degrees of influence, depending on the economic situation of the nation in question. Thus, transitioning nations (like Nigeria) are more susceptible to these elements' effects, which in turn have an impact on monetary policy decisions.

Existing research has explored the relationship between exchange rate volatility and manufacturing export in Nigeria (e.g. Umaru, Olutope, David, Annette, Daniel, Yakubu, Amechi & Uyu, 2023; Olufayo & Fagite, 2014; Ndidi & Alaba, 2019; Ishimwe & Ngalawa, 2015). These studies have employed various econometric techniques to analyze the data. However, these studies have yielded mixed findings, reflecting the complex and multifaceted nature of the relationship between exchange rates and manufacturing sector dynamics. This study aims to bridge this gap by analyzing the impact of exchange rate volatility on the manufacturing sector export in Nigeria. By employing an (Autoregressive Distributed Lag Model), we will investigate the impact of exchange rate volatility on manufacturing sector export in Nigeria. The findings will contribute valuable insights for policymakers and industry stakeholders in developing strategies to mitigate the negative impacts of exchange rate volatility and foster the growth of Nigeria's manufacturing exports.

Given the dependence of manufacturing sector on import for intermediate and capital goods, there is need to examine the manner and extent through which fluctuation in exchange rate affects the performance of manufacturing sector export in Nigeria. The study is of particular relevance because a vibrant manufacturing sector is a sinequa-non for sustained economic growth and development in any economy. In addition, the study is of great importance to the Nigeria economy given her quest to diversify the nation's economy base away from crude oil. Furthermore, this study has become necessary given the declining economic growth forcast for Nigeria in recent times as real GDP declined by 4% from 2019 in 2020, and from 3.6% in 2021 to 3.3% in 2022 (AfDB,2023). It is believed that increase in manufacturing output will lead to increase in manufacturing sector export, employment and household disposable incomes, which will stimulate increase in demand for additional goods and services, which could lead to increased capacity utilisation within the manufacturing sector, and more cheaper goods leveraging on economies of scale, and finally result in overall improvement in the welfare of the populace and stimulate economic growth. The broad objective of this study is to investigate the impact of exchange rate volatility on manufacturing sector export in Nigeria.

## Literature Review
### Conceptual Review
### Exchange Rate

Exchange rate has been defined as the price of one currency in terms of another (Mordi, 2006). Fahrettin (2001) asserts that an exchange rate, as a price of one country's currency in terms of another's, is among the most important prices in an open economy. It influences the flow of goods, services, and capital in a country, and exerts strong pressure on the balance of payments, inflation and other macroeconomic variables. Therefore, the choice and management of an exchange rate regime is a critical aspect of economic management to safeguard competitiveness, macroeconomic stability, and growth

According to O'Sullivan and Sheffrin (2003), exchange rate refers to the rate at which one currency is exchanged for another. Campbell (2010) conceptualizes the exchange rate as the price of one currency in terms of another. Exchange rate could either be nominal or real. The exchange rate of a country is either fixed or floating (Bhawna, 2012). A floating exchange rate refers to an exchange rate regime in which the market forces dictate movements in the exchange rate. On the other hand, a fixed/pegged exchange rate is an exchange rate regime in which the government through the central bank ties or fixed the value of the currency to other currencies (Eduardo & Sturzeneggar, 2003).

Aliyu (2011) noted that an appreciation of the exchange rate results in increased imports and reduced export while depreciation would expand export and discourage import. In addition, depreciation of exchange rate tends to cause a shift from foreign goods to domestic goods. Hence, it leads to a diversion of income from importing countries to countries exporting through a shift in terms of trade, and this tends to have impact on the exporting and importing countries' economic balance of payments. Exchange rate plays a key role in international economic transactions because no nation can remain in autarky due to varying factor endowment (Oladipupo & Ogheneov, 2011). Movements in the exchange rate have ripple effects on some of economic variables such as interest rate, inflation rate, unemployment, money supply; economic growth, balance of payment etc. These facts underscore the importance of exchange rate to the economic well-being of every country that opens to international trade in goods and services. Therefore, nations in the pursuit of the macroeconomic goals of healthy internal and external stability of her economy, find it imperative to adopt effective and efficient exchange rate policy.

Furthermore, Hassan (2002) agreed that exchange rate helps to connect the price systems of two different countries by making it possible for international trade and also effects on the volume of imports and exports, as well as country's balance of payments position. AZeeZ, Kolapo and Ajayi, (2012) noted that When there is deviation of this rate over a period of time from the benchmark or equilibrium, exchange rate is called exchange rate volatility. It also indicates that misalignment of exchange rate as occurred where there is multiplicity of markets parallel with the official market.

Arising from the various conceptualizations of exchange rate above, this study conceptualizes exchange rate as the price at which the currency of one country is given in exchange for that of another currency or can be converted to the currency of another country. It is the price of one country's currency expressed in terms of or in relation to some other currencies. It expresses a national currency's quotation with respect to foreign ones.

**Exchange Rate Volatility**

Volatility of exchange rate has been variously referred to as exchange rate fluctuation or variability. For instance, Agubata and Odubuasi (2018) saw it as "fluctuation in exchange rate" and defined it to entail the volatility and variability in the rate of exchange that affects either positively or negatively the performance of other economic variables. Jongbo (2014) equated it to "erratic fluctuations in exchange rates" and take it to mean periods of domestic currency appreciation or depreciation in an economy. Iyeli and Utting (2017) stated that exchange rate volatility is when there is deviation of exchange rate from the benchmark or equilibrium over a period of time. Adding that, it also indicates misalignment of exchange rate as the case where there exists multiplicity of parallel markets to the official market.

Ozturk (2006) considered exchange rate volatility as the risk associated with unexpected movement in exchange rate. In other words, exchange rate volatility is the risk associated with currency depreciation or appreciation. It is associated factors that induce uncertainty and risk in investment decision with destabilizing impact on the macroeconomic performance (Iyeli and Utting, 2017; Ayobami, 2019). These show unpredicted oscillatory movements that characterize rate at which one currency (in this case, Naira) exchanges for other currencies like dollar.

Exchange rate volatility refers to the degree to which the exchange rate of a country changes over time. The larger the magnitude of the change in exchange rate the more volatile it is. Floating exchange rates are free to change over time and hence more volatile but fixed exchange rates are less volatile because they can only be devalued or revalued by the monetary authority of a country (Steven, 1997). For the purpose of this study however, exchange rate volatility refers to the frequency at which the naira appreciates or depreciates against the U.S dollar.

**Manufacturing Sector**

Manufacturing sector refers to the numerous industries which are involved in the production/manufacturing and processing of items and indulge in either creation of new commodities or in value addition (Adebayo, 2010). To Dickson (2010), manufacturing sector accounts for a significant share of the industrial sector in developed countries. The final products can either serve as finished goods for sale to customers or as intermediate goods used in the production process. According to Loto (2012), manufacturing sector refers to an avenue for increasing productivity in relation to import replacement and export expansion, creating foreign exchange earning capacity, raising employment and per capita income which causes unrepeatable consumption pattern. Mbelede (2012) opined that manufacturing sector is involved in the process of adding value to raw materials by turning them into products.

Therefore, manufacturing is the key sector in an economy and it involves the conversion of raw material into finished goods. In the opinion of Charles (2012), manufacturing industries creates employment and also boost agriculture, thus diversifying the economy by making the nation to increase its foreign exchange earnings. Manufacturing industries came into being with the occurrence of technological and socio-economic transformations in the Western countries in the 18th-19th centuries. This period was widely known as industrial revolution. It all began in Britain and replaced the labour intensive textile production with mechanization and use of fuels. Manufacturing sector is categorized into engineering sector, construction sector, electronics sector, chemical sector, energy sector, textile sector, food and beverage sector, metalworking sector, plastic sector, transport and telecommunication sector.

**Theoretical Review**

**The Mundel-Fleming Model**

The Mundell–Fleming model, also known as the IS-LM-BoP model was first developed by Robert Mundell and Marcus Fleming in the early 1960s. The model is an extension of the IS–LM model. The Mundell–Fleming model describes the short-run relationship between an open economy's nominal exchange rate, interest rate, and output (in contrast to the closed-economy IS-LM model, which focuses only on the relationship between the interest rate and output). The Mundell–Fleming model has been used to argue that an economy cannot simultaneously maintain a fixed exchange rate, free capital movement, and an independent monetary policy. An economy can only maintain two of the three at the same time. This principle is frequently called the impossible trinity or the Mundell–Fleming trilemma. The model shows that the effectiveness of national macroeconomic policy depends on the exchange rate system. This is because in open economy the real exchange rate influence net export and thus income and output. However, the Mundell-Fleming model works with the assumption that prices are fixed. This means that the aggregate supply curve is flat (horizontal in the extreme) and income is determined by the aggregate demand only.

In the Mundell–Fleming model, the demand side of the economy consists of LM and IS equations as follows:

$$M/P = m(Y, I, Q, e^{md}) \qquad (1)$$

$$Q = q(Y, I^{*}, e^{sb}) \qquad (2)$$

Where *M* is money stock, *P* is the price level, *Y* is real output, which is the same as real income in the equilibrium, *I* is the nominal interest rate, *Q* is real exchange rate (defined as *S.P*/P*), *S* is the nominal exchange rate in naira/US$, the asterisk (*) denotes foreign (the world) variable, $e^{md}$ is a shock to money demand, and $e^{sb}$ denotes a shock to spending balance. *Equation (1)* is the money demand, in which it is generally accepted that money demand is affected by real output positively ($m_Y > 0$) and by nominal domestic interest rate negatively ($m_I < 0$). Moreover, a real depreciation in domestic currency (an increase in $Q$) would lead to a decrease in the real money holding ($m_Q < 0$). It is also asserted that M/P fluctuations are driven by exogenous shocks to money demand.

Equation (2) is the IS function expressed in terms of the real exchange rate. Output and the real exchange rate could be related in a positive or negative manner (Siregar & Ward, 2000). The direction of this relationship depends on sources of changes in output. An increase in $Y$ could, for example, originate from an increase in investment or from an increase in net exports. Through the former the increased investment leads to a rise in interest rates, which would be followed by an exchange rate appreciation, implying that $q_Y < 0$. Through the latter the increase in net exports would have required the real exchange rate to depreciate, implying that $q_Y > 0$. Furthermore, an increase in the world interest rate reduces investment, leading to an excess supply of the domestic currency (naira), hence causing the real exchange rate to depreciate, i.e., $q_I^* > 0$. Finally, $Q$ is also assumed to be driven by general shocks to spending balance ($e^{sb}$). These shocks may include unanticipated fiscal policies, which, if contractionary, would lead to real exchange rate depreciation.

The Mundell-Fleming model is significant to this study because of how it explains the behaviour of the exchange rate. In Nigeria, the value of the Naira has fluctuated a great deal over the years. Understanding why exchange rate fluctuates and how the fluctuations affect manufacturing sector performance would help the authorities in their efforts to stabilize the exchange rate.

**The Clark Model of Exchange Rate Volatility**

The Clark Model of exchange rate volatility was developed by Clark in 1973. The model shows an inverse relationship between exchange rate volatility and trade flows. According to Clark (1973), the uncertainty associated with exchange rate volatility would adversely affect profit, output and hence exports of the manufacturing sector. The simplest case described by Clark (1973), for example, considers a competitive firm with no market power producing only one commodity which is sold entirely to one foreign market and does not import any intermediate inputs. The firm is paid in foreign currency and converts the proceeds of its exports at the current exchange rate, which varies in an unpredictable fashion, as there are assumed to be no hedging possibilities, such as forward sales of the foreign currency export sales. Moreover, because of costs in adjusting the scale of production, the firm makes its production decision in advance of the realization of the exchange rate and therefore cannot alter its output in response to favorable or unfavorable shifts in the profitability of its exports arising from movements in the exchange rate. In this situation, the variability in the firm's profits arises from the exchange rate, and where managers of the firm are adversely affected by the risk, greater volatility in the exchange rate with no change in its average level leads to a reduction in output, and hence in exports in order to reduce the exposure to risk. This conclusion rests on the simplifying assumption that there are no hedging possibilities either through foreign exchange market or through off setting transactions. For advanced economies where their well-developed forward exchange markets, specific transactions can be easily hedged, thus reducing exposure to unforeseen movements in exchange rates. However, there is need to recognize that such markets do not exist for the currencies of most developing countries (Clark, Tamirisa & Wei, 2004).

This theory is relevant to this study because, it emphasizes the importance of exchange rate considerations in the decision making of firms. That is, the decision to produce or not depends to a large extent on the stability of the exchange rate. A stable exchange rate reduces the risks level and builds investors' confidence in investing in the manufacturing sector. Therefore, the manufacturing sector export is greatly influenced by the stability of the exchange rate as espoused by the Clark model of exchange rate.

**Empirical Review**

Akinlo and Adejumo (2014) investigated the impact of exchange rate volatility on non-oil exports in Nigeria. The authors employed the Error Correction model and quarterly data from 1986(1) to 2008(4). Finding from the study revealed that exchange rate volatility has positive and significant effects on non-oil exports in the long run while the short run impact of the exchange rate volatility is not significant.

Rasaki and Oyedepo (2023) assessed the symmetric and asymmetric effects of exchange rate volatility on trade flows in Nigeria. The study employs quarterly data and covers the period 1995q1 to 2020q4. The data were sourced from International Financial Statistics (IFS) and Central Bank of Nigeria (CBN) websites. The study employed both linear ARDL and non-linear ARDL (NARDL) models to evaluate the symmetric and asymmetric effects of exchange rate volatility. The findings of the study revealed that exchange rate volatility has only significant short-run effect on export while it has both short-run and long run effects on the imports. The findings from the non-linear ARDL suggest that exchange rate volatility has neither short run nor long run asymmetric effects on exports. However, the non-linear ARDL model revealed short run and long run asymmetric effects of exchange rate volatility on imports. The findings show that increase in volatility reduces imports while decrease in volatility boosts imports.

Umaru, Olutope, David, Annette, Daniel, Yakubu, Amechi and Uyu (2023) examined the impact of exchange rate volatility on export in Nigeria. The study employed the ARDL-Error Correction Model and Bound Test using secondary data sourced from the Statistics Database of the Central Bank of Nigeria. The empirical finding revealed that exchange rate volatility has negative significant impact on export in Nigeria. Olufayo and Fagite (2014) investigated the impact of exchange rate volatility on the performance of Nigeria export sectors from 1980 to 2011. The study employed the GARCH (generalized autoregressive conditional heteroskedasticity and Seemingly Unrelated Regression (SUR). The results revealed a negative relationship between the volatility of exchange rate and export performance of oil and non-oil sectors. Another finding from their study was that the introduction of floating exchange rate system in Nigeria induces instability in the country exchange rate. Their finding is consistent with previous studies that the shift from fixed exchange rate to floating exchange rate brought about uncertainty in the exchange rate.

Equally, Vo, Vo and Zhang (2019) analyzed the effect of exchange rate volatility on disaggregated manufacturing exports with evidence from an emerging country. The aim was to analyze the link between exchange rate devaluation, volatility, and manufacturing export performance. The analysis focuses on the manufacturing sector and 10 of its subsectors that were engaged in the export of goods between Vietnam and 26 key export partners during the 2000–2015 period. Potential factors that could affect this relationship, such as the global financial crisis, Vietnam's participation in the World Trade Organization, or even the export partners' geographic structures, were also accounted for in the model. The findings confirmed that a strategy that depreciates Vietnam's currency appears to enhance manufacturing exports in the short run, whereas the resulting exchange rate volatility has clear negative effects in the long run. The impact of exchange rate volatility on manufacturing subsectors was found to depend on two factors, namely, (i) the type of export and (ii) the export destination.

Aminu, Bello and Salihu (2013) investigated the impact of exchange rate volatility on export in Nigeria. The paper employed three models, viz: Ordinary Least Square (OLS); Granger causality test; and ARCH and GARCH techniques and also Augmented Dickey-Fuller technique was used in testing the presence of unit root. The results of unit root suggested that all the variables in the model are stationary at first difference, while causality test revealed that there is causation between export and exchange rate in the country, but the causation flows from exchange rate to export. Thus, exchange rate causes export. Furthermore, ARCH and GARCH results suggested that the exchange rate is volatile nevertheless export is found to be non-volatile. The study further showed that exchange rate is impacting positively on export, as shown by the regression results. The elasticity results revealed that, the demand for Nigerian products in the World market is fairly elastic. Therefore, for export to improve and foreign exchange earnings increase, the country should depreciate its currency, thereby reducing the price of its products so as to increase demand, which is changing from import-led to export-led economy.

Tampuri (2018) examined the effect of exchange rate movements on export sector performance in Ghana. The focus is on the real sector of the economy thus, Agricultural, Industrial and Services Sectors. A quantitative research design is employed. It uses data from the World Development Indicators (WDI) and the sample period spans1984-2016. The Generalized Autoregressive Conditional Heteroskedastic (GARCH) model is employed in calculating exchange rate volatility. This was after an ARCH effect had been established among the exports. Specifically, the GARCH (1, 1) model is employed in establishing and analyzing the dynamic interactions and long-run relationships between variables. Also, the autoregressive distributed lag co-integration technique is adopted. The study finds that, exchange rate volatility impacts negatively on export performance.

Oluyemi and Essi (2017) investigated the effect of exchange rates on imports and exports in Nigeria using monthly data from 1996 - 2015. A three variable vector auto regression (VAR) consisting of imports, exports and exchange rates (US dollar to Naira) is considered to examine the effect of exchange rate on imports and exports in Nigeria. Augmented Dickey Fuller (ADF) test is used to test the stationarity of each of the variables. The VAR result shows that exchange rates have a positive and insignificant effect on imports while it has a negative and insignificant effect on exports at lag 1 but positive and insignificant effect at lag 2. Exports were also found to affect exchange rates negatively while imports affect exchange rates positively. The above result thus shows that exchange rate in Nigeria is not affected by the activities of imports and exports. Neither does an exchange rate affect the volume of imports and exports in Nigeria. Contrary to economic theory that a fall in the exchange rate will cause imports to fall, imports in Nigeria have been on the increase irrespective of the exchange rates. The result of the impulse response function shows that exchange rates responded positively to imports and negatively to exports.

Duru, Eze, Saleh, Uzeouchina, Ebenyi and Chukwuka (2022) investigated the impact of exchange rate volatility on exports in Nigeria utilizing data from 2005Q1 to 2020Q4. The ARCH model and its extensions of GARCH, TARCH and EGARCH models and nominal effective exchange rate were employed to measure exchange rate volatility. The Autoregressive Distributed Lag Bounds test methodology was used to examine the short-run and long-run effects of exchange rate volatility on exports. The findings validated the presence of exchange rate volatility. In addition, the results revealed that exchange rate volatility had a negative and insignificant impact on exports.

## Methodology

### Research design

Based on the nature of this study, and the variables involved, this study however, employed the causal research design also called the explanatory research design.

### Sources of Data

The type of data used in this study was secondary data ranging from 1980 to 2021, sourced from CBN Statistical Bulletin of various years, National Bureau of Statistics (NBS) and the World Development Indicators (WDI).

### Techniques of Data Analysis

The Autoregressive Distributive Lag (ARDL) model will be used for the statistical validation of the relationship between dependent variable and independent variables.

### Model Specification

To achieve the objectives of this study, the model of Ayobami (2019) was adapted for this study with modifications. The model of Ayobami (2019) which expressed manufacturing output as a function of exchange rate, exchange rate volatility, interest rate, inflation, import and gross capital formation will be modified by first dropping exchange rate variable from the model. This is because, using exchange rate and exchange rate volatility which is derived from exchange rate in the same model is most likely to lead to the problem of multicollinearity. Further, the study will incorporate government funding of manufacturing sector in the model to account for the several interventions made by the government in the time past to boost manufacturing sector export. Therefore, the mathematical/functional forms of the models for this study are stated as;

*MANexp* = *f* (*EXRV, GFMS, INTR, IMP*) ------------------------------------------------ (1)

Where

*MANexp* = manufacturing sector exports
EXRV = exchange rate volatility
GFMS = government funding of manufacturing sector
INTR = interest rate
IMP = manufacturing import

The stochastic or econometric specifications of equation (1), is expressed as;

$$MANexp_t = \beta_0 + \beta_1 EXRV_t + \beta_2 GFMS_t + \beta_3 INTR_t + \beta_4 IMP_t + \varepsilon_t \text{---------------------} \quad (2)$$

It is expected on a priori that $\beta_1 < 0;\ \beta_3 < 0\ and\ \beta_4 < 0$ while $\beta_2 > 0$ .This shows that increase in exchange rate volatility, interest rate and import is expected to have negative impact on manufacturing sector export in Nigeria, assume all things remain equal.

**ARDL Model Specification**

In order to obtain the long-run and short-run estimates of manufacturing sector export models, the study re-specifies equations 1, 2, and 3 to dynamic Autoregressive Distributed Lag (ARDL) model of Pesaran, Shin and Smith (2001) as shown in equations 3;

$$\Delta MANexp_t = \beta_0 + \beta_1 MANexp_{t-1} + \beta_2 EXRV_{t-1} + \beta_3 GFMS_{t-1} + \beta_4 INTR_{t-1} + \beta_5 IMP_{t-1} + \sum \beta_6\, \Delta MANexp_{t-1} + \sum_{i=0}^{q} \beta_7\, \Delta EXRV_{t-1} + \sum_{i=0}^{q} \beta_8\, \Delta GFMS_{t-1} + \sum_{i=0}^{q} \beta_9\, \Delta INTR_{t-1} + \sum_{i=0}^{q} \alpha_{10}\, \Delta IMP_{t-1} + \lambda ECM_{t-1} + \varepsilon_t \text{-----------------------------------} \quad (3)$$

## Results and Discussion

## Descriptive Statistics and Correlation Matrix

The summary of the descriptive statistics and Correlation Matrix of the variables employed in the study is presented in Table 1.

**Table 1: Descriptive Statistics and Correlation Matrix**

| | MANexp | EXRV | GFMS | INTR | IMP |
|---|---|---|---|---|---|
| **Panel A: Descriptive Statistics** | | | | | |
| Mean | 13.81920 | 3.645559 | 4.130820 | -3.225021 | 13.50855 |
| Median | 14.44035 | 4.731362 | 5.302608 | 1.461006 | 14.12166 |
| Maximum | 16.80676 | 5.971262 | 7.005299 | 2.900322 | 16.99995 |
| Minimum | 8.922992 | -0.451143 | -0.415515 | -65.85715 | 8.696778 |
| Std. Dev. | 2.701910 | 1.978333 | 2.380891 | 11.99658 | 2.709773 |
| Skewness | -0.614932 | -0.811341 | -0.645777 | -3.937500 | -0.486638 |
| Kurtosis | 1.943469 | 2.441680 | 1.803557 | 19.90346 | 1.860804 |
| Jarque-Bera | 4.490908 | 5.030728 | 5.295131 | 594.0601 | 3.835267 |
| Probability | 0.105879 | 0.080833 | 0.070823 | 0.000000 | 0.146954 |

**Panel B: Correlation Matrix**

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| MANexp | 0.3024 | 0.8366 | 1 | 0.9674 | 0.9586 | 0.3804 | 0.9913 |
| EXRV | 0.2856 | 0.7800 | 0.9674 | 1 | 0.9233 | 0.4323 | 0.9605 |
| GFMS | 0.2498 | 0.7621 | 0.9586 | 0.9233 | 1 | 0.3346 | .9643 |
| INTR | 0.03700 | 0.3813 | 0.3804 | 0.4323 | 0.3346 | 1 | 0.3589 |
| IMP | 0.3795 | 0.8183 | 0.9913 | 0.9605 | .9643 | 0.3589 | 1 |

**Source: Author's Computation Using EViews 10.**

The descriptive results revealed that except for interest rate, the standard deviation scores of the other variables were relatively minimum indicating less variations in the data spread. The result also showed that all the variables except manufacturing output with the skewness value of 0.652759 were negatively skewed. This implies that all the variables except manufacturing output were not normally distributed. More so, the values of the Kurtosis showed that all the variables except interest rate (INTR) that had 19.90346 were platykurtic, with kurtosis value less than 3. This indicated also a non-normal distribution of the series. Similarly, the p-values of the Jarque Bera statistics clearly showed that all the variables except INTR had a normal distribution. This is expected given the small variances in the variables.

None normal distribution of the series as revealed by the results of the descriptive statistics in this study was due to the fact that the study used high frequency series that has high velocity; high frequency data are usually not normally distributed due to volatility issues that are inherent with shocks variables. The non-normality of the data is however not a problem for this study given the non-usage of Ordinary Least Square (OLS). It can be deduced also from Table 1 that there was no evidence of multicollinearity among the variables used in our model. This is because there were no strongly correlated variables in the model.

## Pre-Estimation Tests

This section provides the pre-tests results such as unit root and cointegration tests to examine the statistical properties (stationarity and linear combination) of the variables being examined.

**Unit Root Tests**

**Table 2: Results of Zivot Andrews (ZA) Unit Root Test with Structural Breaks**

| | ***ZA Test @ level*** | | ***ZA Test @ first difference*** | |
|---|---|---|---|---|
| Variable | *ZA Statistic* | *Break Point* | *ZA Statistic* | *Break Point* |
| *MANexp* | -2.1342 (2) | 2001 | -4.9823 (2)** | 1998 |
| *EXRV* | -2.1758 (2) | 2005 | -5.2745 (2)** | 2005 |
| *GFMS* | -6.1252 (2)** | 2004 | -7.4864 (2)** | 2002 |
| *INTR* | -11.0997 (2)** | 2005 | -6.8850 (2)** | 1996 |
| *IMP* | -3.2403 (2) | 1993 | -6.4099 (2)** | 1998 |
| ***Sig. Level*** | **Crit. Values** | | | |
| *1%* | -5.34 | | -5.34 | |
| *5%* | -4.93 | | -4.93 | |
| *10%* | -4.58 | | -4.58 | |

*Note: Values in parenthesis are the lag length of variables, ** denote rejection of null hypothesis 5% level. Reject the null hypotheses of unit root when the test statistics is greater than the critical value in absolute terms.*

In order to avoid spurious results from the estimations, stationary properties of the series used in this study were subjected to test using Zivot Andrews's unit root test approach. The Zivot-Andrews unit root result revealed that all the variables except GFMS and INTR were less than the corresponding critical value of -5.34 and -4.93(that is at 1% and 5% level of significance). Hence, we do not reject the null hypotheses of unit root at level for those variables. However, after taking the first difference, the test statistics of the ZA unit root test became greater than the corresponding critical value at 5% level of significance in absolute terms for all the variables. Hence, we reject the null hypotheses of unit root at first difference, and conclude that the series were stationary at first difference. The mixed order of integration of the variables further justified the choice of the ARDL technique in estimating the relationships. The structural breaks were identified based on minimum t-statistics where the structural break date for GFMS was identified in 2002. The date for INTR was identified in 1996. The structural break date for IMP was identified in 1998. The period 1998 was identified as the structural break date for MANexp. The date for EXRV was identified in 2005 which coincides or mark the period when the value of naira currency was on free fall as a result of pegging and further deregulation.

**Bounds Cointegration Test**

**Table 3: Cointegration Test using ARDL Bounds Test**

| ARDL Bounds Test (F-STATISTICS) | | | |
|---|---|---|---|
| **Estimated Model** | **F-statistic** | | **Conclusion** |
| $MAN_{exp}$ | 16.02719** | | Cointegrated |
| **Critical Values** | **Lower Bound** | **Upper Bound** | |
| 10% | 2.20 | 3.09 | |
| 5% | 5.56 | 3.49 | |
| 1% | 3.29 | 4.37 | |

**Source: Author's Computation Using EViews 10.**

*Note: I(0) and I(1) denote lower and upper bounds of the ARDL bounds test respectively. ** & *** shows statistical significance at 5% level & 10% level, respectively.*

The table 4 indicates the outcome of the bound's co-integration test of the ARDL approach. Therefore, because F-statistic (16.02719) exceeds the critical values of the upper bounds of 3.49 at significance level. Hence, we reject the null hypothesis of no cointegration and conclude that there exists cointegration or long-run relationship among the variables.

**Model Estimation**

Since the variables are co-integrated, the model estimation result provides both long-run and short-run estimates. Table 4 shows the outcome of the short-run and long run form of the ARDL.

**ARDL Short-Run and Long-Run Estimates**

**Table 4: Results of the Short-run and Long ARDL Estimates (Manufacturing Sector Export model)**

| Variable | Coefficient | Std. Error | t-Statistic | Prob. |
|---|---|---|---|---|
| **Long Run Equation** | | | | |
| EXRV | 0.328231 | 0.170829 | 1.921403 | 0.0484 |
| GFMS | 0.272924 | 0.106075 | 2.572924 | 0.0177 |
| INTR | -0.010786 | 0.006156 | -1.752069 | 0.0944 |
| IMP | 0.549517 | 0.123482 | 4.450188 | 0.0002 |
| C | -0.018985 | 0.045206 | -0.419961 | 0.6788 |
| **Short Run Equation** | | | | |
| D(EXRV) | -0.017777 | 0.110668 | -0.160629 | 0.8739 |
| D(EXRV(-1)) | -0.375073 | 0.142102 | -2.639466 | 0.0153 |
| D(EXRV(-2)) | -0.609462 | 0.135169 | -4.508894 | 0.0002 |
| D(EXRV(-3)) | -0.546242 | 0.125350 | -4.357745 | 0.0003 |
| D(GFMS) | 0.207361 | 0.060916 | 3.404058 | 0.0027 |
| D(GFMS(-1)) | -0.218259 | 0.071870 | -3.036880 | 0.0063 |
| ECM(-1) | -0.703353 | 0.156107 | -4.505583 | 0.0002 |
| Adjusted $R^2$ | 0.883908 | | | |

| Diagnostics | Statistic | p-value |
|---|---|---|
| Heteroscedasticity (ARCH Test) | 0.419004 | 0.9508 |
| Autocorrelation (Breusch-Godfrey LM test) | 0.882652 | 0.4300 |
| Normality Test | 1.388139 | 0.4995 |
| Stability (CUSUM) | Stable | |
| Stability (CUSUMSQ) | Stable | |

*Note:* ***, ** and * indicate significance at the 1%, 5% and 10% levels respectively.

The results from table 4 showed that EXRV, GFMS and IMP have positive and statistically significant impact on manufacturing sector exports in Nigeria in the long-run. A 1 percent increase in EXRV, GFMS and IMP led to increases in manufacturing sector exports by 0.3282% 0.2729% and 0.5495% respectively. All the three variables have p-values less than 0.1 (10%) level of significance, suggesting that they are at least statistically significant at 10% level. On the other hand, the result showed that INTR had a negative and statistically significant impact on the manufacturing sector export in Nigeria during the period under study. A 1 percent increase in INTR led to decrease in manufacturing sector exports by 0.0108% in the long-run. The negative impact of interest rate suggests that, high interest rates can discourage businesses from making long-term investments in expanding their manufacturing capabilities. If manufacturers are hesitant to invest in new equipment, technology, or facilities due to higher borrowing costs, it may limit their ability to meet the demand for exports and potentially lead to lower export volumes.

Patterning to the short-run impact, the results of the ARDL in Table 4 reported the estimates for only EXRV and GFMS implying that the estimates of the other variables are so insignificant to be captured. Evidently, the results showed that EXRV in the current period and across lags 1-3 have negative impact on manufacturing sector exports in the short-run. However, the impact became statistically significant from lag 1-3. Focusing on lag one of EXRV, the results revealed that a 1 percent increase in exchange rate volatility led to a decrease in manufacturing sector exports by 0.3750%. Similarly, the results showed that lag one of GFMS had a negative and statistically significant impact on manufacturing sector exports in the short-run. A 1 percent increase in GFMS led to a decrease in manufacturing sector exports by 0.2183%.

The adjusted $R^2$ value of 0.883908 implied that, about 88.39% of the variations or changes in the manufacturing sector exports in Nigeria were explained by the independent variables. Furthermore, the Error Correction Model (-ECM (-1)) which indicates the speed of adjustment to the equilibrium in the event of disequilibrium was -0.703353 and negative and statistically significant as required. The implication of this finding is that in the event of disequilibrium, the short run disequilibrium will have a fast speed of adjustment (70%) back to equilibrium.

## Diagnostic Tests

**Table 5: Results of the Diagnostic Tests**

| Diagnostic Test | Statistic | p-value | | |
|---|---|---|---|---|
| Heteroscedasticity (ARCH Test) | 0.419004 | 0.9508 | | |
| Autocorrelation (Breusch-Godfrey LM test) | 0.882652 | 0.4300 | | |
| Normality Test | 1.388139 | 0.4995 | | |
| Stability (CUSUM) | Stable | | | |
| Stability (CUSUMSQ) | Stable | | | |
| Stability (CUSUM) | Stable | | | |
| Stability (CUSUMSQ) | Stable | | | |

The results of the several diagnostic tests to evaluate the accuracy and dependability of the estimates showed that the model was free from heteroscedasticity since the p-values of the F-statistics was greater than 0.05. the result also shows that the model was free from the problem of serial correlation or autocorrelation since the p-values of the F-statistic is greater than 0.05. The residuals of the model were normally distributed since the p-values of the test statistic (Jaque-Bera test) was greater than 0.05. Regarding the stability of the estimates, the plots of cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares of recursive residuals (CUSUMQ) for the model showed that the estimate was stable (See Figures 1 and 2). This is confirmed if the blue line falls within the 5% confidence interval shown by the red lines.

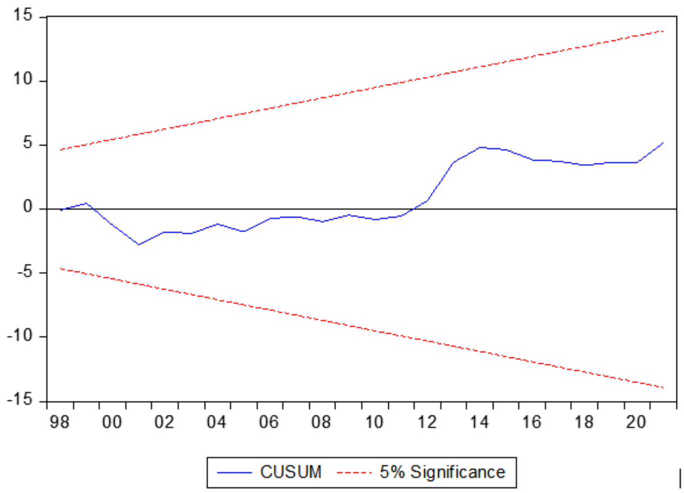



Figure 1: cumulative sum of recursive residuals (CUSUM)

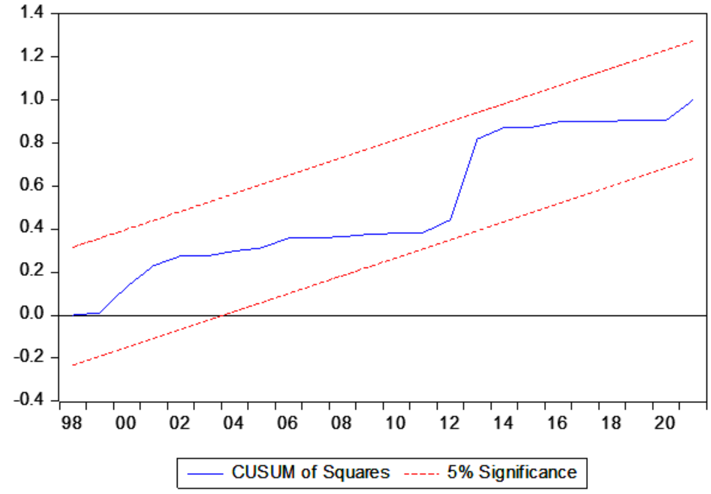
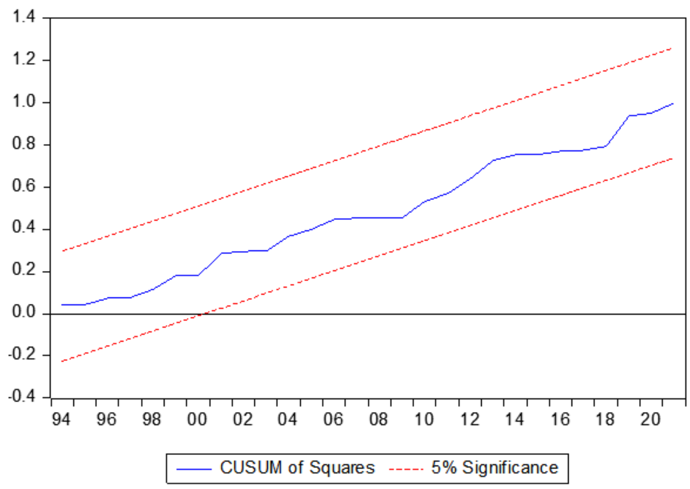



**Figure 2:** cumulative sum of squares of recursive residuals (CUSUMQ)




The results of the several diagnostic tests to evaluate the accuracy and dependability of the estimates showed the following: (i) the three models were free from heteroscedasticity since the p-values of their F-statistics were greater than 0.05. (ii) The three models were free from the problem of serial correlation or autocorrelation since the p-values of their F-statistics are greater than 0.05. (iii) The residuals of the three models were normally distributed since the p-values of their test statistic (Jaque-Bera test) were greater than 0.05. (iv) Regarding the stability of the estimates, the plots of cumulative sum of recursive residuals (CUSUM) and cumulative sum of squares of recursive residuals (CUSUMQ) for the model showed that the estimates was stable (See Figures 20 and 21). This is confirmed if the blue line falls within the 5% confidence interval shown by the red lines.

## Discussions of Findings

The objective of the study was to investigate the impact of exchange rate volatility on manufacturing sector export. It was found that exchange rate volatility had positively and significant impact on manufacturing sector exports in Nigeria in the long-run. The finding conformed with theoretical expectations and agreed with the findings of Ndidi (2019), Ishimwe et al (2015), Vo et al (2019), Tampuri (2018), Olufemi and Essi (2017) and Duru et al (2012) which all showed that exchange rate volatility significantly impacts manufacturing sector exports.

This result conformed to conventional wisdom which suggests that exchange rate devaluations are typically a development strategy. Given the traded environment of the manufacturing industry, a depreciation of a currency is usually seen as a solution that remedies the poor performance of the manufacturing sector through an increase in exports. This may not be the case (as revealed by this study) if the ripple effects (imported inflation and many other problems that may come along with a weak currency) of an exchange rate depreciation are greater than the direct effects (increase in exports). For example, depreciation can cause inflation which may increase the prices of goods and services. This may hurt the manufacturing sector on the domestic market. Exchange rate volatility can influence the cost of production for manufacturers, especially those relying on imported raw materials and components. If the local currency depreciates, the cost of imported inputs increases, leading to higher production costs. This, in turn, can reduce the competitiveness of Nigerian exports in the global market. Also, exchange rate volatility introduces uncertainty for exporters, making it challenging for them to plan and forecast effectively. This uncertainty can affect strategic decision-making, including investment in export capacity and market expansion efforts. Exporters face currency risk when dealing with international transactions. Exchange rate fluctuations can lead to payment and financing risks, especially if contracts are denominated in foreign currencies. Unfavorable exchange rate movements may result in financial losses for exporters. Further, exchange rate volatility can impact the overall demand for Nigerian exports. If the local currency depreciates significantly, it may lead to reduced demand for exports as foreign buyers seek more competitively priced goods from other countries. Government responses to exchange rate volatility, such as monetary policies and interventions, can influence the competitiveness of exports. For example, if the government implements measures to stabilize the currency, it may positively impact exporters by reducing volatility.

## Conclusion

The study investigated the impact of exchange rate volatitility on manufacturing export, covering the period 1981 to 2021. The exchange rate volatility series was derived using the EGARCH approach. The unit root properties of the variables were tested using the Zivot-Andrews test for stationarity. Two tests of cointegration were applied: the ARDL bounds cointegration test and the Bayer-Hanck cointegration test, and both tests confirmed cointegration among the model variables. Further, the study applied the ADRL model to investigate the long-run and short-run impact of exchange rate on manufacturing sector performance. It was discovered that exchange rate volatility had significant positive impact on manufacturing sector exports in Nigeria in the long-run. This finding suggest that exchange rate volatility can affect the cost structure of exports. A depreciating local currency makes Nigerian exports more cost-competitive in international markets, potentially leading to increased demand for manufactured goods. Based on the findings of this study, it was concluded that exchange rate volatility had significant impact on manufacturing sector export in Nigeria.

**Recommendations**

Based on the findings, the study made the following recommendations:

1. The study recommended that the government and policy makers should evolve policies that stabilize the naira. For instance, a situation where there exit multiple windows of exchange rate is not helpful.
2. The arbitrage between the parallel markets and the official markets should be reduced if not totally removed.
3. More so, manufacturers that rely heavily on imported raw materials that cannot be easily sourced locally should be made to access the exchange rate at the official rate with ease. This will go a long way in increasing manufacturing sector output for export.
4. Also, there should be increase in strategic marketing and branding of manufacturing sector products to enhance the visibility and reputation of Nigerian exports. This is because a strong brand can make products more resilient to market fluctuations and support consistent demand.

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# EFFECTS OF FUEL PRICES ON ECONOMIC ACTIVITY: EVIDENCE FROM NIGERIA

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**Abstract**

*The study examined how fuel prices affected Nigerian economic activity from 1990 to 2023. The variables that impacted Nigeria's economic growth owing to pricing were estimated; using the t-test and the ordinary least square method. The investigation produced some fascinating results. If the p-value of the fuel price is less than 0.05, the null hypothesis is rejected and established that fuel price has a significant effect on all the variables except the exchange rate. The value of the correlation coefficient is 0.263, and it turns out that whenever fuel prices increase by 1%, gross domestic product (GDP) increases by 0.263% in Nigeria. Each time the level of fuel price increases by 1%, the inflation rate increases by 0.227% in Nigeria. When fuel prices increased by 1%, and per capita Income decreased by 0.579% in Nigeria. Consequential policy actions to improve energy efficiency and boost the availability of affordable and cleaner energy sources could help mitigate the inflationary impact of higher fuel prices. Policy decisions aiming at raising fuel prices, particularly in channeling subsidy funds to infrastructural and developmental projects, should also factor in the knock-on influence on inflation, which has significant distributional effects.*

**Keywords:** *Fuel prices, Economic growth, inflation, Economic activity.*

## Background to the study

Petrol as become an essential component of our everyday existence, and one cannot imagine living without it. But fuel prices are soaring, which eventually impacts everything we use daily. These educated people will surely become immobile as impoverished folks are already struggling to make ends meet. The cost of fuel has increased threefold in only one year and is still rising. It's only putting more fuel on the fire. The cost of daily necessities that are frequently transported is impacted by the rising cost of fuel. Price hikes will have a big effect because food accounts for more than half of the income of impoverished households, whereas fuel makes up only 10% of their income. It's a chain reaction, once set off; it will affect everyone. Petrol price increases drive up transportation costs, which in turn drive up product prices, making consumers loosen their purse strings even more, and so on. The ups and downs drive more individuals into poverty and leave those who are already impoverished in a pitiful situation. There's little doubt that this has worried regular people who are having a hard time making ends meet. In contrast to the higher-paid salaried class, price hikes have only affected middle-class families on fixed or low incomes. The current middle class is squeezed, and many of those trying to reach the middle-class standard find it stubbornly out of reach. The wealthy and politically corrupt are unconcerned about it. The business class will transfer the burden so that they too can be safe. When doing business, ordinary people should transfer the burden onto their customers and create a chain reaction. Government employees will also demand an increase in minimum wage, consequently leading to a rise in inflation rate.

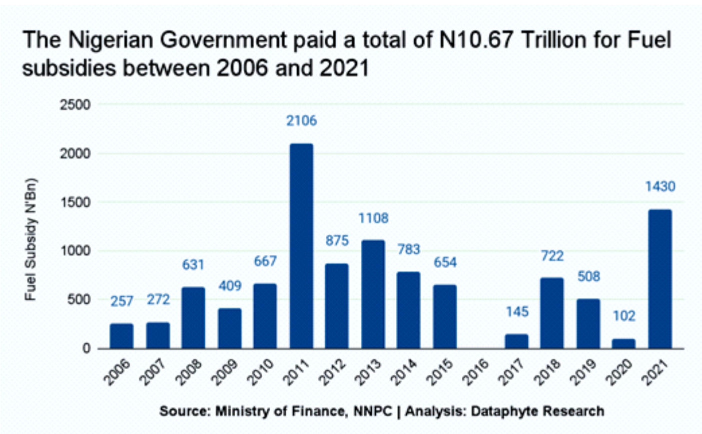
Nigeria began producing crude oil in 1956. Based on estimated daily production of 1.5 million barrels per day, it ranked seventh globally in 2023 (OPEC, 2023 and statista, 2023). Nigeria surpassed Angola, Libya, and Algeria to become the continent's top producer of crude oil in May 2023. This information was taken from the most recent revenues information sheet released by the Organization of Petroleum Exporting Countries (OPEC), which also projected that the country's earnings would increase to nearly $29 billion in the same period of 2024.

Fuel is only one of the numerous ways that Nigeria's economy has suffered over the years. After the Price Control Act was passed, making it unlawful to sell certain goods—including gasoline—for more than the set price, fuel subsidies started in the 1970s and were formally implemented in 1977. Although the idea of subsidies is admirable in and of itself, there have been numerous, significant accusations of corruption and poor management surrounding their administration in Nigeria. Kerosene subsidies were eliminated in 2016, thirteen years after diesel was deregulated; however, the Petroleum Motor Spirit (PMS) subsidies have proven to be the most difficult for Nigerian economic managers to handle. Each year, a significant amount of the country's income is allocated to the subsidy program. There are several factors contributing to the extraordinary increase in the number of subsidies—the price of crude oil on the global market, the amount of PMS consumed—which is subject to debate (Aniemeke, 2024; Aduloju, 2023).

President Ahmed Bola Tinubu's first inauguration speech on May 29, 2023, stressed the necessity of eliminating fuel subsidies immediately. This has a number of ramifications. "We commend the decision of the outgoing administration in phasing out the petrol subsidy regime which has increasingly favoured the rich more than the poor," he stated on the aforementioned day, to quote. With resources running out, subsidies can no longer be justified at their current rate of increase. Instead, we will reroute the money to support greater investments in healthcare, education, public infrastructure, and employment that will significantly enhance the lives of millions of people. With such words, Nigeria's fuel

subsidies came to an end (Olugbenga Ige, 2023; National Insight, 2023)).
To put it simply, a subsidy is when the government pays a percentage of what consumers should pay in order to ease the burden on them. In other words, the government sets the price of gasoline lower than what it would have been if it had been purchased on the open market. Nigeria first introduced subsidies in the 1970s in response to the 1973 shock to the world oil price. Oil prices spiked worldwide as a result of the shock scenario, forcing the government to impose local price caps on energy-related goods. Previous governments have raised fuel prices in stages for a variety of reasons in the past, albeit with some criticism, rather than taking the fall and going all out. Throughout his tenure, the then-head of state, Ibrahim Babangida, hiked prices from 15.3 kobo to 70 kobo in multiple tranches. This increase occurred particularly in the 1990s. It was raised from 70k to N5 by Ernest Shonekan's temporary administration on its own. However, the Sani Abacha administration first lowered the price to N3.25 before increasing it to N15 and then N20 under Abdulsalami Abubakar. Protests have mostly accompanied these increases (Addeh, 2023).

According to Dataphyte, a subsidy is a sum of money given by the government or a public entity to support a firm or industry in order to keep the price of a good or service low or competitive. Making necessities accessible to the general public is the only goal here.The International Centre for Tax and Development stated in a study brief that Nigeria first implemented subsidies in the 1970s in reaction to the 1973 oil price shock. Specifically, fuel subsidies were implemented in Nigeria in 1977 as a short-term budgetary response to a surge in oil prices that occurred during that time (the 1970s). But what was once meant to be a stopgap has continued to this day. (Amata, 2023). However, there have been numerous discussions about whether or not the government should keep providing fuel subsidies since 1999. Different levels of experts have shared their opinions on this. The World Bank, the International Monetary Fund (IMF), and other organizations have recommended that the government eliminate fuel subsidies.  According to the World Bank, rich households were the main beneficiaries of fuel subsidies. Additionally, one of Dataphyte's data dives supported this. The case for eliminating gasoline subsidies has grown as a result of all the issues raised as well as the enormous sums of money that have been spent on fuel subsidies over the years. (Amata, 2023).



Subsidies could not be eliminated despite six significant attempts by six different governments between 2000 and 2022, all of which were thwarted by demonstrations and opposition

| In 2020, Nigeria missed the opportunity of the crash in global oil prices to remove all oil subsidies at once | | | |
|---|---|---|---|
| Price | Target Price Increase | Result | Remarks |
| 2000 | From ₦20 to ₦75 | Strong political resistance | 7 incremental increases spanned the entire 2000 till 2007 |
| 2012 | From ₦65 to ₦145 | Strong political resistance (Occupy Nigeria) | The Government relaxed price back to ₦97 |
| 2016 | From ₦86.5 to ₦145 | Little or no political resistance | The Government succeeded because people had been worn out by long periods of fuel scarcity and long queues for fuel, wherein people were already buying at over the ₦145 |
| 2020 | From ₦145 to ₦130 | | Reduction in petrol price was caused by a fall in the global price of crude |
| 2021 | From ₦130 to ₦167 | Little or no political resistance | Rebound in global oil prices. Price far below the market import price of 233 - occasioning another subsidy regime |
| 2022 | From ₦167 to the actual market price | Perceived likely resistance to removing all petrol subsidy | The Government reverted to ₦175, and postponed the possible total fuel subsidy removal till 2023. |
| 2024 | From ₦254.06 to ₦700 | Regardless of the public's level of resistance, the fuel subsidy was removed | Given the depletion of resources, subsidies can no longer be justified by their escalating costs. |

**Source**: Revised Table; taken from Dataphyte Research, International Monetary Fund (IMF).

Data from the Nigerian National Petroleum Corporation Limited (NNPCL) and the Nigeria Extractive Industries Transparency Initiative (NEITI) show that the government spent N2.04 trillion on fuel subsidies between January and July 2022. Starting in 2020, there was an annual increase in the amount spent on fuel subsidies, which reached an all-time high in July 2022. However, evidence indicated that the government has consistently failed to meet its revenue objectives, making this implausible. As a result, the government's revenue in 2023, 2024, and 2025 will be 41.39 percent, 32.21 percent, and 28.91 percent, respectively, if fuel subsidies are paid in full. Therefore, even while the subsidies—if they are kept at all—would devour a significant portion of the nation's resources, they will also force the government to keep borrowing money to pay for gasoline subsidies. Remember how the Federal Government was borrowing money to pay for fuel subsidies last year? According to Ms. Zainab Ahmed, Minister of Finance, Budget, and National Planning, this was an entirely unsustainable position (Amata, 2023).

Uche Nwogwugwu, an economics professor, called fuel subsidies a hoax. He pointed out that Nigeria ought to have eliminated the fuel subsidy in 2012 when former President Goodluck Jonathan had suggested it, saying the money being spent on it could finance regional refineries. Professor Jonathan Aremu, a senior lecturer at Covenant University and a former CBN assistant director, claimed that subsidies frequently skewed the market, making it difficult for goods to realize their true value. But in the event that the next administration decides to do away with the fuel subsidies, he called on them to offer incentives that would lessen the suffering of Nigerians (editor@lifeandtimesnews.com 2022). According to the International Energy Agency, the worldwide fuel subsidy is projected to be worth more than $1.0325 billion in 2018 for all of 2022. The reported number is far greater than the total government revenue of developing nations, particularly those in Sub-Saharan Africa, and far more than the expected value of worldwide aid, which was projected to be over $204 billion in 2022. Due to these costs, proposals have been made to end the world's fuel subsidies so that the money saved can be used for other profitable projects in developing nations (Mouhoud and Couharde, 2020).

The main economic sectors in Nigeria are negatively impacted by low earnings that are already being used up by inflated subsidies. In order to increase local production capacity, eliminate reliance on fuel imports, and improve the trade balance, the $20 million trade deficit that resulted from low crude oil export receipts in November 2022 necessitates the prompt removal of gasoline subsidies (Abayomi, 2023). Corruption, deceit, a lack of transparency, and improper use of public cash marred the fuel subsidies. Between January 2020 and June 2022, N3.92 trillion was set aside for fuel subsidies; this amount is more than the total federal budget for capital infrastructure, healthcare, education, agriculture, and defense combined for the 30-month period. Between 2006 and 2018, Nigeria spent over 10 trillion naira on petroleum subsidies. N5.82 trillion was consumed in 2021–2022 and N3.36 trillion was suggested for the first half of 2023. These numbers point to a substantial financial burden on the government, limiting its capacity to make investments in vital fields that could support economic expansion and improve the lives of citizens. Nigeria did not benefit from the increase in oil prices because of its poor oil production and rising fuel subsidy costs. Fuel subsidies might be eliminated, which would support economic growth and beneficial developmental changes in the macro and local economies (Mountford, 2023).

## literature Review

### Theoretical Framework

Many theoretical frameworks can be used to assess and comprehend the Nigerian fuel subsidy disagreement. In this paper, I will go over three frameworks that might help clarify various parts of the discussion: political, social, and economic theories

### Economic Theories

a. **Market Failure:** According to this viewpoint, Nigeria's fuel subsidies may be a reaction to market failures and inefficiencies in the energy industry. The government claims that in order to guarantee that fuel prices are reasonable for the general public, especially the impoverished, subsidies are required. Critics counter that subsidies contribute to economic distortions including smuggling and rent-seeking behavior, distorting market forces and creating inefficiencies (World Bank, 2019).

**Fiscal Policy:** The government may employ fuel subsidies as a means of social welfare or income redistribution. This strategy sees subsidies as a way to lessen economic disparity and poverty. Opponents of subsidies counter that they put a burden on government coffers and take funds away from other vital areas like healthcare and education.

**Political Theories**

a. **Populism**: Populist politics frequently have an impact on the fuel subsidy discussion in Nigeria. Subsidies are a tactic used by populist politicians to stay in power and increase their appeal. Politicians can portray themselves as champions of the people and appeal to the masses by artificially maintaining low fuel costs. But given that it can result in budgetary imbalances and economic instability, this strategy could not be long-term viable (Oyedemi, 2019).

b. **Rent-seeking:** Rent-seeking theory provides another perspective for understanding the fuel subsidy controversy. Via illegal activity and rent extraction, powerful interest groups such as fuel importers, wholesalers, and dishonest officials may profit from the subsidized regime. As a result, efforts to reform or eliminate subsidies may encounter strong opposition from these rent-seeking individuals, who have a vested interest in keeping things as they are as it enables them to collect economic rents (Transparency International, 2019).

**Social Theories**

a. **Social Contract:** The controversy around fuel subsidies is an example of how the people and the government interact on a social contract. The public may view subsidies as a type of entitlement or as a privilege that the state ought to grant. If subsidies are eliminated or reduced improperly, social upheaval and public discontent may result. However, proponents of subsidy reform contend that the funds saved can be used to fund social initiatives that serve a greater number of people (Adejumo et al., 2020).

a. **Poverty and Inequality:** In order to alleviate poverty and income inequality, subsidies are frequently justified. It is argued that the poor will be disproportionately affected by the removal of subsidies because they spend a higher percentage of their income on fuel. On the other hand, detractors contend that subsidies are regressive, favoring the wealthier classes of society over the intended recipients. They propose that in order to address poverty and inequality, targeted policies and alternative social safety nets might be more successful (Ogbeide, 2018).

Application of these theories can aid in the analysis and understanding of the motivations, interests, and outcomes associated with fuel subsidies in the Nigerian context. It is noteworthy that these theoretical frameworks offer various perspectives and interpretations of the actual debate about fuel subsidies in Nigeria, which is complex and multifaceted with economic, political, and social dimensions (Akinwale, et al., 2013).

**Empirical Literature**

Given that oil is the primary raw resource utilized by all economies, the price of oil and the rate of inflation may positively correlate. This is due to the fact that decreased final product prices will undoubtedly follow higher oil input costs. Studies in this field show a substantial correlation between the two (Bobai, 2012), while other studies contend that the impact varies with the duration of the pricing period under study (Sek et al., 2015). The situation is significantly influenced by the nation's rate of economic growth (Taghizadeh-Hesary et al., 2016).

The post-war economic effect of energy costs, mainly the price of oil, has been the subject of frequent analyses. A number of studies have indicated that an increase in fuel prices has a significant negative impact on GDP, even while energy importers have a net positive impact (Bildirici et al., 2009). According to (Lafakis et al., 2015; Cavallo, 2008; Nusair, 2019; Lioudis, 2023, Galvin, 2023). Chou and Tseng (2011) discovered that oil prices significantly affected CPI inflation in China, India, Indonesia, Jordan, Korea, Malaysia, Pakistan, the Philippines, Singapore, Taiwan, and Turkey over the long run, even if no short-term effect was seen. Research has demonstrated that oil prices had a long-lasting impact on inflation in Europe (Cuñado and de Gracia, 2003, Ozdemir & Akgul, 2015).

Przekota (2022) asked a simple question: How do gas costs affect the growth of businesses and the economy? From 2000 to 2020, the Polish economy served as the study's foundation. Poland imports energy supplies, thus it needs to react quickly to fluctuations in the price of gasoline. For the fuel costs, maritime commerce, GDP, and inflation of the Polish economy, a VAR model was developed. The outcomes show how adaptable the Polish economy is to shifts in the marketplace. While it makes sense to function more easily when fuel prices are lower, high prices do not always signify a problem. The correlation between oil proceeds and the Nigerian economy from 1970 to 2009 was studied by Ogbonna and Ebimobowei (2012). They analyzed primary and secondary data using Pearson correlation and they explained measures and evidence using descriptive statistics. The analysis's findings demonstrate that oil money has a favorable influence on Nigeria's GDP and per capita income. But there was a negative link between the price of fuel and the pace of inflation. They recommended that in order to accomplish the long-term development of the nation, oil proceeds should be well utilized. Olomola (2006) examined the effects of shocks to the oil price on Nigeria's overall economic activity, including output, inflation, the real exchange rate, and the money supply. Using quarterly data from 1970 to 2003, the results showed that, in contrast to earlier empirical findings, oil price shocks have little impact on Nigeria's output and inflation. Shocks to the oil price, however, were found to have a major impact on the real exchange rate. According to the author, shocks to the price of oil might result in a wealth impact that would increase the value of the real exchange rate and could squeeze the tradable sector, which would lead to the Dutch Disease.

**Methodology and hypotheses**

The World Bank Database is the source of the data used in this study, which was gathered between 1990 and 2023.The method of analysis used in this study is econometric based. Thus, the effect of the correlation between fuel price and a number of economic variables in Nigeria, including GDP growth rate, inflation rate, per capita income, poverty index, and exchange rate are analyzed using Least Square (LS) techniques. The study hybridized on the approach of Abdulrahman (2023) that empirically investigated the impacts of fuel prices on economic activity in Sudan.

The main hypothesis is: There is a statistically significant effect of fuel prices on economic activity.

While the sub-hypotheses are:

i. There is a statistically significant effect of fuel prices on the economic growth rate.
ii. There is a statistically significant effect of fuel prices on the inflation rate
iii. There is a statistically significant effect of fuel prices on the per capita income.
iv. There is a statistically significant effect of fuel prices on poverty index.
v. There is a statistically significant effect of fuel prices on exchange rate.

**Model Specification**

Four sets of equations are estimated for this purpose. The sets of equations tested for the relationship between fuel price rate and other economic variables in the Nigerian economy. Thus, we have the following:

$$GDP = f(FPR, OPN, UNEP, DFC) \quad (1)$$
$$INFL = f(FRP, PCY, OPN, EXR) \quad (2)$$
$$PCY = f(FPR, INFL, UNEP, EXR) \quad (3)$$
$$PI = f(FRP, PCY, INFL, UNEP,) \quad (4)$$
$$EXR = f(FPR, OPN, DFC, INFL) \quad (5)$$

Re-specifying our models empirically based on the equations above, we have:

$$GDP = a_o + a_1FPR + a_2OPN + a_3UNEP + a_4 DFC + Ut \quad (6)$$
$$INFL = b_o + b_1FPR - b_2PCY + b_3OPN + b_4EXR + Ut \quad (7)$$
$$PCY = c_o + c_1FPR - c_2INFL + c_3UNEP + c_4EXR + Ut \quad (8)$$
$$PI = d_o + d_1FPR + d_2 PCY + d_3INFL + d_4UNEP + Ut \quad (9)$$
$$EXR = e_o + e_1FPR + e_2OPN + e_3DFC + e_4INFL + Ut \quad (10)$$

The variables in the above models are represented by the following algebraic symbols:

GDP = Gross Domestic Product
INFL = Inflation Rate
PCY = Per Capita Income
PI = Poverty Index
TRD = Trade Dispute
UNEP = Unemployment Rate
EXR = Exchange Rate

FPR = Fuel Price
OPN = Openness (X-M)/GDP
DFC = Domestic Fuel Consumption
Ut = Stochastic error term
$a_o$, $b_o$, $c_o$, $d_o$. $e_o$, are intercepts. $a_1 - a_4$, $b_1$, $- b_4$, $c_1 - c_4$, $d_1 - d_4$, and $e_1 - e_4$, are the parameters for equations

## Results and Discussion of Findings

This section focuses on the empirical analyses of specified models of the study and the interpretation of the model estimation results.

## Econometric Methods

This study has six different models that seek to address the impact of specific explanatory variables on different dependent variables

**Table 1: Overall Summary Statistics**

| | Observations | Mean | S.D. | Minimum | Maximum |
|---|---|---|---|---|---|
| Gross Domestic Product | 2,352 | 56.25 | 7.25 | 45.57 | 3,520.35 |
| Fuel Price | 5,149 | 6.75 | 17.28 | -68.17 | 70.51 |
| GDP Growth Rate | 7,221 | 3.82 | 7.91 | 15.45 | 42.72 |
| Poverty Index | 6,244 | 54.21 | 32.72 | -74.57 | 77.63 |
| Trade Dispute | 5,716 | 19.57 | 18.53 | -30.24 | 94.32 |
| Per Capita Income | 4,520 | 7.92 | 38.22 | 0.11 | 42.75 |
| Openness (X-M)/GDP | 4,144 | 5.75 | 7.26 | -97.69 | 27.52 |
| Unemployment Rate | 6,832 | 4.76 | 12.36 | -68.12 | 84.21 |
| Exchange Rate | 6,720 | 17.21 | 21.23 | -5.75 | 57.23 |
| Inflation Rate | 5,253 | 25.27 | 5.27 | 18.73 | 97.65 |
| Domestic Fuel Consumption | 7,282 | 72.55 | 5.28 | 19.97 | 52.35 |

**Source**: Authors' estimation

The results in Table 2 show that the standard deviation values indicate that there is no significant difference between the variable values and their mean.

**Table 2: Results for Correlation Matrix.**

| Variable | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| (1) GDP | 1.000 | | | | | | |
| (2) INFL | −0.258 | 1.000 | | | | | |
| (3) PI | −0.026 | −0.022 | 1.000 | | | | |
| (4) TRD | 0.056 | 0.522 | −0.250 | 1.000 | | | |
| (5) PCY | −0.027 | 0.238 | 0.168 | 0.152 | 1.000 | | |
| (6) UNEP | 0.291 | 0.225 | −0.251 | 0.277 | −0.065 | 1.000 | |
| (7) EXR | 0.020 | −0.352 | −0.155 | 0.005 | 0.025 | 0.106 | 1.000 |

**Source**: Authors' estimation

## Presentation of the Unit Root Test

### Table 3: Summary of the Unit Root Test

| Variables | Difference | ADF statistic | Critical Value (5%) | Order of Integration | Remark |
|---|---|---|---|---|---|
| GDP | GDP | -2.234751 | -3.552973 | I(0) | Non-Stationary |
| FPR | FPR | -2.024734 | -3.552973 | I(0) | Non-Stationary |
| | D(FPR) | -5.732953 | -3.552973 | I(1) | Stationary |
| PI | PI | -8.532475 | -3.552973 | I(0) | Stationary |
| TRD | TRD | -2.232955 | -3.552973 | I(0) | Non-Stationary |
| | D(TRD) | -7.583772 | -3.552973 | I(1) | Stationary |
| PCY | PCY | -1.935961 | -3.552973 | I(0) | Non-Stationary |
| | D(PCY) | -5.408264 | -3.552973 | I(1) | Stationary |
| UNEP | UNEP | -6.833682 | -3.552973 | I(0) | Stationary |
| INFL | INFL | -2.742855 | -3.552973 | I(0) | Non-Stationary |
| | D(INFL) | -6.242689 | -3.552973 | I(1) | Stationary |
| EXR | EXR | -5.068771 | -3.552973 | I(0) | Stationary |
| DFC | DFC | -7.152752 | -3.552973 | I(0) | Stationary |

**Source**: Author's Computation from E-views

The findings indicate that while fuel price, poverty index, openness, per capita income, and inflation rate are stationary at first differencing, the gross domestic product, poverty index, unemployment rate, exchange rate, and domestic fuel consumption are stationary at level. In accordance with Harris (1995) and Gujarrati (2003) cointegration, both 1 (0) and 1 (1) variables could be carried forward to test for cointegration.

### Table 4: Cointegration Test

| Hypothesized No. of CE(s) | | Eigenvalue | Likelihood Ratio | 5% Critical Value | 1% Critical Value |
|---|---|---|---|---|---|
| None ** | | 0.825670 | 240.8627 | 156.00 | 168.36 |
| At most 1 ** | | 0.825721 | 166.2761 | 124.24 | 133.57 |
| At most 2 ** | | 0.798036 | 109.5553 | 94.15 | 103.18 |
| At most 3 * | | 0.687214 | 70.03953 | 68.52 | 76.07 |
| At most 4 | | 0.452223 | 36.58035 | 47.21 | 54.46 |
| At most 5 | | 0.266766 | 16.72412 | 29.68 | 35.65 |
| At most 6 | | 0.181763 | 7.020252 | 15.41 | 20.04 |
| At most 7 | | 0.052058 | 0.400346 | 3.76 | 6.65 |

*(**) indicates four cointegrating equations at the 5% significant level.

## Effect of fuel prices on economic indicators in Nigeria (1990-2023)

To examine the influence of the independent variable, namely "Fuel Prices," on various dependent variables such as rate of economic growth, inflation rate, per capita income, poverty index, and exchange rate in Nigeria during the period from 1990 to 2023, a simple regression analysis was conducted. This regression analysis involved calculating the regression equation between the independent variable (Fuel Prices) and each of the dependent variables (economic growth, inflation rate, per capita income, poverty index, and exchange rate) in Nigeria during the specified time period (1990-2023).

### a) Impact of the fuel prices on the rate of economic growth in Nigeria (1990-2023):

| **Table 5: Regression Results of Model 1** | | | |
|---|---|---|---|
| Variable | Coefficient | Std. Err. | P-value |
| GDP | 0.689 | 0.038 | 0.000 |
| FPR | 0.263 | 0.057 | 0.012 |
| OPN | 0.523 | 0.546 | 0.052 |
| UNEP | -0.273 | 0.957 | 0.026 |
| DFC | 0.527 | 0.284 | 0.002 |
| Constant | 1.504 | 0.649 | 0.162 |
| R- square | | | 0.524970 |
| Adjusted R squared | | | 0.512754 |
| Durbin-Watson stat | | | 2.37712 |
| Observation | | | 34 |

**Source**: Author's Computation from E-view

The significance of the model was evident as the P- value was statistically significant at 0.012, and there was a statistically significant impact of the (Fuel Prices) level on the (gross domestic product) level at 0.01. This supports the validity of the first sub-hypothesis of the study, which states that there is a statistically significant impact of the (Fuel Prices) level on the (GDP) level. It turns out that the independent variables explain 51.27% of the changes that occur in the dependent variable, while the rest of the changes are due to other variables that were not included in the model. The value of the correlation coefficient is 0.263 and it turns out that whenever the level (Fuel Prices) increased by 1%, (GDP) increased by 0.263% in Nigeria (Table 5). In FPR-based GDP estimation in Equation 1, we added trade openness (OPEN), Unemployment Rate (INFL), and Domestic Fuel Consumption (DFC). The results show that all four variables are statistically significant in estimating the equilibrium level of the GDP.

### b) Impact of the fuel prices on the rate of inflation (1990-2023)

| **Table 6: Regression Results of Model 2** | | | |
|---|---|---|---|
| Variable | Coefficient | Std. Err. | P-value |
| INFL | 0.856 | 0.095 | C |
| FPR | 0.227 | 0.751 | 0.002 |
| PCY | 0.594 | 0.839 | 0.002 |
| OPN | −0.227 | 0.372 | 0.006 |
| EXR | −0.207 | 0.229 | 0.022 |
| Constant | 1.583 | 0.677 | 0.267 |
| R- square | | | 0.484970 |
| Adjusted R squared | | | 0.469540 |
| Durbin-Watson stat | | | 1.734512 |
| Observation | | | 34 |

**Source**: Author's Computation from E-view

The significance of the model was evident as the P-value was statistically significant at 0.05. There was a statistically significant impact of the (Fuel Price) level on the (inflation rate) level at 0.05. This indicates the validity of the second sub-hypothesis of the study, which states that there is a statistically significant impact of the (Fuel Price) level on the (rate of economic growth) level. It turns out that the independent variables explain 46.95% of the changes that occur in the dependent variable, while the rest of the changes are due to other variables that were not included in the model. The value of the correlation coefficient is 0.227, and it turns out that whenever the level (Fuel Price) increased by 1%, (inflation rate) increased by 0.227% in Nigeria (Table 6). In FPR-based INFL estimation in Equation 2, we added Per Capita Income (PCY), trade openness (OPN), and Exchange Rate (EXR). The results show that all four variables are statistically significant in estimating the equilibrium level of the Inflation rate.

**c) Impact of the fuel prices on the per capita income in Nigeria during the period (1990-2023):**

**Table 7: Regression Results of Model 3**

| Variable | Coefficient | Std. Err. | P-value |
|---|---|---|---|
| PCY | 0.789 | 0.465 | 0.000 |
| FPR | −0.579 | 0.846 | 0.002 |
| INFL | − 0.427 | 0,744 | 0.017 |
| UNEP | −0.552 | 0.382 | 0.008 |
| EXR | −0.988 | 0.221 | 0.003 |
| Constant | 1.587 | 0.532 | 0.185 |
| R- square | | | 0.635163 |
| Adjusted R squared | | | 0.625920 |
| Durbin-Watson stat | | | 1.725721 |
| Observation | | | 34 |

Source: Author's Computation from Eview

The significance of the model was evident as the P value was statistically significant at 0.05, and there was a statistically significant impact of the (Fuel Price) level on the (Per Capita Income) level at 0.05. This indicates the validity of the third sub-hypothesis of the study, which states that there is a statistically significant impact of the (Fuel Price) level on the (Per Capita Income) level. It turns out that the independent variable explains 62.59 % of the changes that occur in the dependent variable, while the rest of the changes are due to other variables that were not included in the model. The value of the correlation coefficient is 0.579, and it turns out that whenever the level (Fuel Prices) increased by 1%, (Per Capita Income) decreased by 0.579% in Nigeria (Table 7). In FPR-based PCY estimation in Equation 3, we added Inflation Rate (INFL), Unemployment Rate (UNEP), and Exchange Rate (EXR). The results show that all four variables are statistically significant in estimating the equilibrium level of the Per Capita Income.

**d) The fuel prices and their impact on poverty index in Nigeria (1990-2023):**

| **Table 8: Regression Results of Model 4** | | | |
|---|---|---|---|
| Variable | Coefficient | Std. Err. | P-value |
| PI | 0.789 | 0.064 | 0.000 |
| FPR | −0.263 | 0.163 | 0.252 |
| PCY | 0.533 | 0.839 | 0.013 |
| INFL | 0,284 | 0.222 | 0.009 |
| UNEP | 0.556 | 0.311 | 0.001 |
| Constant | 1.247 | 0.739 | 0.156 |
| R- square | | | 0.562753 |
| Adjusted R squared | | | 0.542285 |
| Durbin-Watson stat | | | 2.272355 |
| Observation | | | 34 |

**Source**: Author's Computation from Eviews

The significance of the model was evident as the F value was statistically significant at 0.05, and there was a statistically significant impact of the (Fuel Prices) level on the (Poverty Index) level at 0.05. This indicates the validity of the fifth sub-hypothesis of the study, which states that there is a statistically significant impact of the (Fuel Prices) level on the (Poverty Index) level. It turns out that the independent variable explains 54.2% of the changes that occur in the dependent variable, while the rest of the changes are due to other variables that were not included in the model. The value of the correlation coefficient is 0.263, and it turns out that whenever the level (Fuel Prices) increased by 1%, (Poverty Index) increased by 0.263% in Nigeria (Table 4.8).

**e) Impact of the fuel prices on the Exchange Rate in Nigeria during the period (1990-2023):**

| **Table 9: Regression Results of Model 5** | | | |
|---|---|---|---|
| Variable | Coefficient | Std. Err. | P-value |
| EXR | 0.789 | 0.044 | 0.000 |
| FPR | −0.263 | 0.857 | 0.532 |
| OPN | 0.647 | 0.367 | 0.001 |
| DFC | −0.528 | 0.046 | 0.001 |
| INFL | −0.293 | 0.086 | 0.005 |
| Constant | 1.247 | 0.575 | 0.186 |
| R- square | | | 0.395896 |
| Adjusted R squared | | | 0.379534 |
| Durbin-Watson stat | | | 1.784587 |
| Observation | | | 34 |

**Source**: Author's Computation from Eviews

The significance of the model was evident as the F value was statistically significant at 0.05, and there was a statistically significant impact of the (Fuel Prices) level on the (Poverty Index) level at 0.05. This indicates the validity of the fifth sub-hypothesis of the study, which states that there is a statistically significant impact of the (Fuel Prices) level on the (Poverty Index) level. It turns out that the independent variable explains 54.2% of the changes that occur in the dependent variable, while the rest of the changes are due to other variables that were not included in the model. The value of the correlation coefficient is 0.263, and it turns out that whenever the level (Fuel Prices) increased by 1%, (Poverty Index) increased by 0.263% in Nigeria (Table 4.8).

**e) Impact of the fuel prices on the Exchange Rate in Nigeria during the period (1990-2023)**

| Variable | Coefficient | Std. Err. | P-value |
|---|---|---|---|
| EXR | 0.789 | 0.044 | 0.000 |
| FPR | −0.263 | 0.857 | 0.532 |
| OPN | 0.647 | 0.367 | 0.001 |
| DFC | −0.528 | 0.046 | 0.001 |
| INFL | −0.293 | 0.086 | 0.005 |
| Constant | 1.247 | 0.575 | 0.186 |
| R- square | | | 0.395896 |
| Adjusted R squared | | | 0.379534 |
| Durbin-Watson stat | | | 1.784587 |
| Observation | | | 34 |

**Source**: Author's Computation from Eviews

It turned out that the model was not significant, as the P-value was not statistically significant at 0.05. This indicates the non-validity of the fourth sub-hypothesis of the study. It was found that there was no statistically significant correlation between (Fuel Prices) and (exchange rate) at 0.05, as well as the absence of a statistically significant impact (Fuel Prices) on (exchange rate) at 0.05 in Nigeria during the period (1990-2023)

**Policy Implications and Recommendations**

The consequences of our findings for policy objectives are quite clear. The government ought to refrain from implementing measures that could lead to economic instability. Since fuel is a necessary energy product for homes and businesses to use in their daily economic operations, the ongoing increase in the price of petroleum products, particularly fuel, should be avoided in order to lower the level of inflationary trend, unemployment, trade disputes, poverty level, and transportation fare and food prices. Additionally, the government should allow private entities to own refineries under the present petroleum subsector deregulation program in order to decrease the reliance on imported fuel, which in turn causes imported inflation.

The price increase of petroleum goods, particularly fuel, was the cause of the rise in the cost of housing, food, transportation, and other services. In addition to having a detrimental effect on the macroeconomic variables of the country and causing widespread price hikes, the recent increase may make the severe poverty that is now raging throughout the nation much worse. Every increase in fuel prices causes tension in Nigeria because the country's workers are enraged by the numerous price hikes, which have frequently resulted in protests and strikes. However, the government has been profiting billions of naira from the export of crude oil, while Nigerians live in extreme poverty. The 2024 budget's prediction of $77.96 per barrel indicates a steady increase in the price of crude oil globally. The fundamental social and economic infrastructure, including the water, electricity, telecommunication, roads, health care, and schools, is completely destroyed. Therefore, it is critical that the government establish an appropriate macroeconomic framework in order to fully optimize the benefits of crude oil, both internal and external, for the general welfare of Nigerians. Additionally, the agricultural subsector and other sectors should receive substantial funding. Nigeria's infrastructure should be funded by the surplus from crude oil sales, both domestically and internationally.

The policy implications are straightforward. Policy decisions aiming to increase fuel prices, notably in response to channeling subsidy funds to infrastructural and developmental project, should also factor in the knock-on effect on inflation which has important distributional implications. Concurrent policy actions to improve energy efficiency (e.g. through technological innovations), and boosting availability of affordable and cleaner energy sources, could help mitigate the inflationary impact of higher fuel prices. Further, improving labor market flexibility, strengthening monetary policy credibility as well as limiting price controls could reduce the risk of a protracted pass-through of fuel prices to inflation, and inflation expectations becoming de-anchored to the upside. The progressivity of the distributional impact reinforces calls for streamlining fuel subsides as they benefit the richest households more than the poorest ones. Nevertheless, as the purchasing power of the poorest households also dips with fuel price increases, targeted mitigating measures could alleviate this impact. While targeting takes time and efforts to implement, it is achievable.

**Conclusion**

The policy implications are straightforward. Policy decisions aiming to increase fuel prices, notably in response to channeling subsidy funds to infrastructural and developmental project, should also factor in the knock-on effect on inflation which has important distributional implications. Concurrent policy actions to improve energy efficiency (e.g. through technological innovations), and boosting availability of affordable and cleaner energy sources, could help mitigate the inflationary impact of higher fuel prices. Further, improving labor market flexibility, strengthening monetary policy credibility as well as limiting price controls could reduce the risk of a protracted pass-through of fuel prices to inflation, and inflation expectations becoming de-anchored to the upside. The progressivity of the distributional impact reinforces calls for streamlining fuel subsides as they benefit the richest households more than the poorest ones. Nevertheless, as the purchasing power of the poorest households also dips with fuel price increases, targeted mitigating measures could alleviate this impact. While targeting takes time and efforts to implement, it is achievable.

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# POLICY CHALLENGES FOR EMERGING AND DEVELOPING ECONOMIES

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**Abstract**

*The 2009 global recession demonstrated once again, the importance of crisis prevention as well as the critical need for preserving policy room so that emerging market and developing economies (EMDEs) can act when their economies are hit by shocks. And now, with the global growth outlook still weak and vulnerabilities rising, these lessons underscore the need for comprehensive policies to improve EMDEs' resilience to shocks and lift long-term growth prospects. On the macroeconomic front, priorities include shoring up fiscal positions, keeping adequate foreign reserves and strengthening policy frameworks. Financial sector policies to adapt to a changing global financial environment include strengthening home-host supervisor coordination and establishing prudential authorities with the appropriate tools and mandates to mitigate systemic risks. Structural policy priorities include investment in human capital and infrastructure to offset the decline in potential growth that is expected to continue over the next decade. Renewed reform momentum is needed to create the environment that generates private sector-led, productivity-driven growth supported by measures to improve governance and business climates.*

**Keywords:** *Macroeconomic Policy, Fiscal policy, Monetary policy, Structural reform, Potential growth, Governance.*

## Background to the study

EMDEs weathered the global recession of 2009 relatively well for three reasons. First, EMDEs were generally not as exposed to the financial sector fragilities that triggered the crisis in advanced economies. Second, many EMDEs had used the 2000s to reduce vulnerabilities and rebuild policy room to respond effectively when the crisis hit. Third, at the onset of the crisis, advanced economies and some large EMDEs provided unprecedented and coordinated monetary and fiscal policy stimulus, which helped shield global economic growth. Nevertheless, the global recession slowed per capital growth in EMDEs to 0.4 percent in 2009 from an average over much of the preceding decade of close to 5 percent. The rebound in 2010-11 was initially strong but per capital growth never returned to its rates from before the global recession. Commodity exporters faced further headwinds when global commodity prices slid to multi-year lows in 2011-16 and forced commodity-exporting EMDEs to engage in procyclical fiscal tightening. Energy-exporting EMDEs were particularly hard hit by the collapse in oil prices in 2014-16. Amid slowing growth, most EMDEs were not able to fully unwind the policy stimulus put in place in response to the crisis fiscal deficits in the average EMDE were about as wide in 2018 as they were in 2010 and external, fiscal, and corporate vulnerabilities have increased since 2007. Several EMDEs are highly indebted, have elevated levels of foreign currency denominated debt or rely on portfolio or bank flows to finance large current account deficits.

Since the global recession, structural factors have eroded potential growth. Around 2010, the share of the working-age population in EMDEs stabilized after more than four decades of rapid increases. There is a broad literature offering policy recommendations for EMDEs and analysis of the likely effects of possible reforms and other policy actions. This paper adds to the literature in several ways. First, the paper assesses both the progress and impact of structural reforms in EMDEs since the global recession. Most studies focus on quantifying the impact these reforms would have on output (Bailiu and Hajzler 2016; Égert 2018) and the evolution of specific aspects of structural reforms (World Bank 2019). Second, compared to existing studies that focused on individual structural reforms, this paper brings together the policy priorities most relevant at the current juncture, alongside a review of the related literature analyzing the likely impact of their implementation, with a focus on possible complementarities and tradeoffs. This paper reports the following findings. First, it documents the extent to which current macroeconomic policies undermine the resilience of EMDEs to shocks. Over 60 percent of EMDEs have primary fiscal deficits that are too large to stabilize or reduce their debt levels based on current economic conditions.

This paper points to several policy implications of this outcome. EMDEs with unsustainable fiscal positions can prioritize raising revenues and improving spending efficiency, while maintaining growth-enhancing expenditure. Measures to enhance tax revenues include broadening the tax base, improving tax collection systems, reducing loopholes, and empowering tax administrators with greater technical skills. To improve spending efficiency and the mix of expenditures, policy makers can enhance the institutions and mechanisms used to determine investment projects and procurement and to monitor spending including on government administration and social services. Separately, in several EMDEs, international reserves are currently below levels that would be consistent with reserve adequacy. These EMDEs could focus on rebuilding foreign exchange reserves and restraining foreign currency borrowing.

Second, to improve longer-term resilience, EMDEs need to strengthen fiscal and monetary policy frameworks by adopting transparent and rules-based approaches. Fiscal rules can help countries maintain sustainable finances and accumulate resources when the economy is doing well. Better fiscal frameworks also assist monetary policy by restraining pro-cyclical spending that could contribute to demand pressures. A transparent and independent central bank will be better placed to maintain price stability, thereby helping to create a macroeconomic environment that is conducive to strong growth.

Third, pro-active financial sector supervision and regulation can mitigate risks, especially in countries with financial markets that are developing rapidly and becoming more integrated globally. In EMDEs without a prudential authority or prudential powers, creating or empowering these institutions is a priority. In EMDEs with the appropriate institutions, flexible and well-targeted tools are needed to manage balance-sheet mismatches, foreign currency risk, and asset price misalignment with fundamentals. In EMDEs facing destabilizing capital flows, capital flow management measures in conjunction with sound macroeconomic policies, exchange rate policy, and sufficient levels of financial and institutional development can reduce the risk of financial instability (IMF 2012). In regions where EMDE-headquartered banks have gained prominence, efforts to strengthen home-host supervisor coordination may pay dividends during the next episode of financial stress.

Fourth, to reverse the trend slowdown in productivity growth, ambitious and comprehensive structural reforms are needed. While EMDEs were able to make some progress in improving their business climates in the three years prior and during the global recession, in many areas momentum was not maintained. Meanwhile, governance in EMDEs has failed to improve since the 1990s and some EMDEs have taken steps to rein in openness to international capital flows. Reform priorities include building institutions that support economic growth and resilience; enhancing productivity and encouraging investment; building human capital; investing in growth-enhancing public infrastructure; helping to address, as well as adapting to, climate change; improving governance; strengthening competition; and reducing regulatory burdens. This paper proceeds as follows. First, it examines macroeconomic policies that build resilience. This is timely because EMDEs are more vulnerable today than before the global recession. Next, it explores financial sector policies that address existing and emerging financial stability challenges. Finally, it highlights reforms that address structural impediments to stronger, balanced and sustainable growth in EMDEs.

**Macroeconomic Policies to Build Resilience**

As global economic growth slows, EMDE policymakers must strive to make their economies more resilient to shocks. Efforts are needed to strengthen fiscal and monetary policy frameworks and calibrate international reserves, particularly in economies that have experienced rapid increases in debt and have become more exposed to debt-rollover risks, currency volatility, or spikes in interest rates. Countercyclical macroeconomic policies and financial stability can lean against pro-cyclical fluctuations in capital flows. EMDE policymakers must also prepare for spillovers from disorderly market adjustments and policy shocks in advanced economies.

**Financial Sector Policies for Stability and Growth**

Since the global financial crisis, the global financial architecture has improved, the resilience of major banking systems has strengthened, and new monetary and macro prudential tools have been developed and widely employed. Yet, EMDEs face a number of challenges, new and old, related to the financial sector, the architecture of financial regulation and supervision, and macro prudential policy. These include the deterioration of bank balance sheets, the legacy of post-recession credit booms in some countries, the rise in EMDE-headquartered and regional banks, the need for home-host supervisor coordination, the rise in nonbank intermediaries, and the management of volatile capital flows.

The post-recession rebound in EMDE growth, shifts in investor risk appetite, and low borrowing costs have fueled credit to nonfinancial corporations and, in many EMDEs, outright credit booms (Ohnsorge and Yu 2016). Credit extended to the private sector by banks in EMDEs increased by 10.5 percentage points of GDP between 2007 and 2016, with especially rapid increases in EAP and MNA. There has also been a shift toward riskier borrowing by nonfinancial corporations, at least in some EMDEs. While much of the credit growth was domestic, capital inflows (especially, portfolio flows which can be fickle) also contributed to rising nonfinancial sector debt. On average, portfolio flows accounted for 17 percent of capital flows to EMDEs in 2010-17 up from 8 percent in 2002-07. In some EMDEs, the share of nonresident holdings in local currency bond markets has grown to more than 30 percent (Czech Republic, Ghana, Indonesia, Mexico, Peru, Poland, South Africa), which exposes these countries to the risk of changing global risk sentiment even if it mitigates currency risk (Agur et al. 2018).

While these credit booms had largely subsided by 2016, they have left a legacy of elevated private sector debt in a number of EMDEs. This, coupled with disappointing economic growth, has contributed to a deterioration in the health of banks' balance sheets. Banks' profitability has declined, with returns on assets and equity recently reaching their lowest levels since 2010. EMDE banks' asset quality has also deteriorated, with the share of non-performing loans rising in nearly two-thirds of EMDEs between 2007 and 2017, although remaining at still-manageable levels in most EMDEs.

**Structural Policies to Boost Equitable Growth**

EMDEs have seen potential growth slow to 4.7 percent in the 2013-18 periods, down by 1.2 percentage points compared to 2003-07 (World Bank 2018e). Part of the slowdown is due to lower productivity growth, attributable to several factors including slower investment growth; diminishing gains from factor reallocation as the pace of urbanization slows; and a stabilization of global value chains. Demographic trends have turned from tailwinds to headwinds as the share of the working-age population stabilized in EMDEs around 2010, following more than four decades of steady increases. At this point, all major economies face demographic trends that slow potential growth prospects: economies with rising working-age populations accounted for 19 percent of global GDP in 2013-17, sharply down from 60 percent of global GDP in 2003-07. At current trends, potential growth in EMDEs is expected to continue to slow, to 4.3 percent a year in the next decade, with 60 percent of EMDEs experiencing a slowdown. Demographic trends alone would account for almost one-half of this slowdown and would weigh most heavily on potential growth prospects in EAP and ECA.

Some of this progress has been driven by trade-related reforms, again with increased momentum visible in the three years prior and during the global recession. Thus, the number of trade-related reforms in EMDEs increased from 24 to 37 between DB2008 and DB2010. However, these numbers imply that still only a minority of EMDEs were undertaking reforms that lowered the cost and time required to import and export. Reform momentum slowed after 2010. Since DB2017, however, there seems to have been some renewed vigor in trade reform, with the number of relevant reforms rising to 34 in that year. In contrast to these efforts to lower within-border trade-related costs, G20 economies have imposed a growing number of tariffs and non-tariff restrictions on trade (WTO 2019). Finally, better education serves a critical function in reducing inequality both within and between countries. As EMDEs' workforce grows—while that of advanced economies shrinks—and becomes more skilled, the global economy is expected to benefit and global income inequality is expected to fall (World Bank 2018a).

**Policy Priorities**

Where demand is weak but fiscal positions are sound and there is monetary policy room, fiscal or monetary stimulus could help support activity. Where fiscal positions are weak, priorities may include shifting public spending toward more productive and poverty-reducing expenditures and improving revenue frameworks. Some economies in LAC and SSA have experienced rapid debt accumulation and face risks of fiscal unsustainability. Energy-exporting EMDEs, particularly in MNA, face rising vulnerabilities that require policy action. Where central banks lack independence and transparency, policymakers could prioritize implementing rule-based frameworks and building credibility through proper implementation of policy. Where corporate balance sheets face rising vulnerabilities, policymakers can implement macro prudential policies that mitigate risks. While fiscal, monetary, and financial policies can build resilience in the short-term, structural policies are needed to boost longer-term growth. Specific policy priorities will depend on country-specific bottlenecks to growth. The specific policies depend on the extent to which an important market failure has to be rectified and the likelihood of success in governments' efforts to address this failure (Maloney and Nayyar 2018; Rodrik 2008). Several priority areas can be considered.

## Conclusion

A decade after the global recession, EMDE policymakers are at a crossroads. EMDE growth has slowed over the past decade, with downside risks becoming more prevalent. At current trends, most EMDEs will face slower potential growth in the next decade than the previous one. While some progress has been made in implementing more resilient macroeconomic policy frameworks—including through rules-based policy frameworks; increasing the flexibility of exchange rates; and strengthening prudential policies, including with macro prudential tools—most EMDEs remain some distance from best practices. At the same time, significant policy room that was used in response to the global recession has not yet been restored. There have been efforts to implement business-friendly reforms to improve efficiency and promote investment. But with governance stalling and reform momentum slowing in several areas, those efforts may not suffice to stem the decline in potential output growth. To raise per capita incomes, eradicate poverty, and bring about shared prosperity, policy makers need to adopt ambitious and credible reform agendas that focus on all aspects of policy in an integrated way. EMDEs on unsustainable fiscal paths can prioritize actions that can help shore up fiscal positions while protecting growth-enhancing expenditures.

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# ASSESSMENT OF OUTBOUND MEDICAL TOURISM ON SUSTAINABLE DEVELOPMENT IN AFRICA: EVIDENCES FROM BARIATRIC PATIENTS IN NIGERIA

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**Abstract**

*Outbound medical tourism is on the rise in Africa due to number of factors, including limited access to quality healthcare, high costs of medical treatment, and deficiency of specialized medical services. This study examines the implications of medical tourism abroad on Africa's sustainable development, drawing particular evidences from bariatric patients in Nigeria. A qualitative methodology with Interpretative Phenomenological Approach was employed, including a comprehensive literature review on outbound medical tourism in Africa and interviews with key stakeholders in the healthcare industry and beyond. This study reveals that while outbound medical tourism can provide benefit such as increased access to medical care, it also poses challenges such as brain drain, loss of foreign exchange, and inadequate investment in domestic healthcare infrastructure. Key recommendations include encouraging domestic investment in healthcare infrastructure and its managers, bolstering regulatory frameworks for outbound medical tourism, and encouraging domestic medical tourism.*

**Keywords:** *Outbound Medical Tourism, Sustainable Development, Africa, Bariatric Patients, Healthcare Infrastructure, Regulatory Framework.*

## Background to the Study

Outbound medical tourism, the act of traveling abroad to receive medical treatment, has become an increasingly popular option for individuals in Africa seeking affordable and prompt access to medical care. Due to the high costs and limited availability of quality healthcare in the region, many individuals have sought treatment elsewhere, resulting in a significant outflow of healthcare expenditures from African economies (Crooks et al, 2010). This phenomenon has significant implications for the region's sustainable development, as it presents unimaginable obstacles for the healthcare industry and the economy as a whole. The growth of outbound medical tourism in Africa is arguably driven by a number of factors, including limited access to high-quality healthcare, and a dearth of specialized medical services. Outbound medical tourism has the potential to provide affordable and expeditious access to healthcare for African patients, but it also has significant implications for the region's sustainable development as highlighted by previous studies (Lunt et al., 2016, Moghavvemi et al., 2017 and Mounir & Zalagh 2022).

The theoretical issues raised by previous research on outbound medical tourism in Africa center on the potential benefits and challenges it poses for the region's sustainable development. A study by Lunt et al. (2014) suggests that outbound medical tourism has the potential to generate revenue and establish employment opportunities in the healthcare sector, as well as promote the development of specialized medical services. On the other hand, it can exacerbate brain drain, limit investment in domestic healthcare infrastructure, and result in foreign exchange loss. The practical difficulties associated with outbound medical tourism in Africa are huge, given that the healthcare industry is already struggling to meet demand for services within the region. The high costs of medical treatment and limited access to quality healthcare have resulted in a significant outflow of healthcare expenditure from African economies, with many individuals traveling abroad to receive treatment that is unavailable at home (Orekoya & Oduyoye 2018). This phenomenon has significant implications for the long-term viability of the healthcare industry in Africa and the economy as a whole.

The independent variable in this study is, outbound medical tourism in Africa, which is the act of traveling abroad to receive medical treatment. The dependent variable is sustainable development, which is defined as development that meets present needs without compromising future generations' capacity to meet their own needs. In spite of the expanding importance of outbound medical tourism in Africa, there is a significant research gap concerning its implications for sustainable development. While a few studies have investigated the motivations and experiences of medical tourists in Africa, there is a dearth of comprehensive studies that analyze the implications of outbound medical tourism for sustainable development in the region. This study is necessary to provide a detailed and critical analysis of the implications of outbound medical tourism for sustainable development in Africa and to contribute to the larger academic and policy debate on the topic.

**Problem Statement**

The high rate of outbound medical tourism in Africa presents lots of challenges for sustainable development in the region. While outbound medical tourism can provide African patients with affordable and timely access to medical care, it also poses challenges such as brain drain, loss of foreign exchange, limited investment in domestic healthcare infrastructure and demotivation of local health workers (Crooks et al. 2010; Lunt et al. 2014; Moghavvemi et al. 2017). The concern is that the effects of outbound medical tourism on Africa's sustainable development have not been thoroughly examined, and there are no policy recommendations for enhancing the sustainability of outbound medical tourism in the region ( Orekoya & Oduyoye 2018). The issue of brain drain is one of the difficulties posed by medical tourism abroad in Africa. Numerous African healthcare professionals are attracted to work in countries with higher salaries and improved working conditions, resulting in a shortage of skilled healthcare professionals in Africa (Crooks et al, 2010). This has significant implications for the sustainability of the healthcare industry in Africa, as it impedes the capacity of domestic healthcare systems to provide patients with high-quality treatment. The loss of foreign exchange is another example of a problem posed by medical tourism abroad. When individuals travel abroad for medical treatment, they frequently spend huge amount of money on medical expenses, travel, and lodging. In Nigeria alone, about $1.6 billion is spent on medical trips abroad. This results in a substantial outflow of healthcare expenditures from African economies, which can have significant effects on the broader economy's sustainability.

**Objective of the Study**

The primary objective of this study is to examine critically the effects of outbound medical tourism on Africa's sustainable development. Specifically, the investigation seeks to accomplish the following goals:

1. Determine the primary drivers and trends of outbound medical tourism in Africa.
2. To examine the impact of medical tourism on the domestic healthcare industry and economy of African nations.
3. To investigate the challenges of outbound medical tourism for Africa's sustainable development.

**Research Question**

1. What are primary drivers of outbound medical tourism in Africa?
2. What are the impacts of outbound medical tourism on the domestic healthcare industry and economy of African nations?
3. What are the challenges posed by outbound medical tourism for Africa's sustainable development?

**Literature Review**

Outbound medical tourism is the act of traveling outside of one's home country to receive medical care abroad. Usually because it's cheaper, there are more specialized treatments there, or desire to combine medical procedures with other activities like vacationing or fun seeking (Lunt, 2014). Individuals seeking elective surgeries, cosmetic procedures, specialized medical care, or alternative therapies have all made medical tourism a global business. In "Outbound Medical Tourism from Africa: A New Form of Inequality", Smith and Delano (2019) examined the effects of outbound medical tourism from Africa on healthcare equity. The authors identified a lack of regulation and accountability in outbound medical tourism from Africa, which can lead to exploitation of patients and fading of healthcare disparities. They recommended the development of policies and regulations to assure patient safety and equity in Africa's.

In Nigeria, medical tourism has become a celebrated idea among Nigerian elites (Orekoya & Oduyoye 2018) came up with the findings that medical tourism has the potential to contribute to the development of the healthcare sector in Nigeria. The study which employed a qualitative research design, however, argues that regulatory frameworks are necessary to ensure that the sector operates in accordance with ethical and sustainable principles. Similarly, in a qualitative study conducted by Abimbola and Negin (2018), the motivations and experiences of Nigerian medical tourists were investigated through in-depth interviews. The study identified the affordability, availability, and quality of healthcare as the primary drivers of outbound medical tourism from Nigeria. It suggests the creation of a comprehensive national health policy that addresses the underlying causes of healthcare disparities in Nigeria.

Mounir and Zalagh (2022), in "Outbound Medical Tourism and Its Impact on the Healthcare System in Morocco", examined the impact of outbound medical tourism on the healthcare system in Morocco. The research uncovered a lack of regulation and accountability in outbound medical tourism from Morocco, which can lead to exploitation of patients and exacerbate healthcare disparities. Similarly, Awases and Nyoni (2020) conducted a comprehensive literature review on outbound medical tourism from Africa and its implications for health equity in Africa. The scoping evaluation revealed a lack of regulation and accountability in outbound medical tourism from Africa, which can result in patient exploitation and exacerbate healthcare disparities. Recommendations were made to improve the development of policies and regulations to assure patient safety and equity in Africa's outbound medical tourism.

In Kenya, (Njuguna and Nzau, 2021) investigated the motivations, experiences, and obstacles of Kenyan medical tourists in their work entitled "Outbound Medical Tourism from Kenya: Motivations, Experiences, and Challenges". The affordability, availability, and quality of healthcare in Kenya were identified as the primary drivers of outbound medical tourism by means of an in-depth qualitative interview study. Additionally, the study discovered that medical tourism can have negative effects on Kenya's domestic healthcare system. Lunt (2016) also noted that medical tourism in Africa lacks regulation and ethical guidelines, which can lead to patient exploitation and exacerbate healthcare disparities. The study suggests the creation of ethical guidelines and regulations to guarantee patient safety and equity in medical tourism.

An examination of the migration of health workers from South Africa to the United Kingdom and Australia, as well as its effects on the South African healthcare system was carried out by Awases & Nyoni (2020). The review of the literature identifies the brain drain of health professionals from South Africa as a significant threat to the domestic healthcare system, driven by low wages, poor working conditions, and a lack of opportunities in South Africa. The study suggests developing policies and strategies to retain health professionals in South Africa. In their study entitled "A new manifestation of inequality is Africa's outbound medical tourism", Smith & Delano (2019) evaluated the effect of medical tourism on economic development in Africa. The quantitative research design of the study revealed that medical tourism can have a positive effect on economic development in Africa. The authors suggested that African governments should invest in the healthcare sector to enhance the quality of medical services and attract more medical tourism.

**Table 1: Author's elaboration of empirical review based on research questions**

| Author | Year | Title of study | Objective | Methodology | Findings | Recommendation |
|---|---|---|---|---|---|---|
| Abimbola and Negin | 2018 | Outbound Medical Tourism from Nigeria: A New Direction in Healthcare for African Elites | To explore the motivations and experiences of Nigerian medical tourists | Qualitative study using in-depth interviews | Reveals availability, and quality of healthcare as the main drivers of outbound medical tourism from Nigeria. Also found that medical tourism can exacerbate health inequalities within Nigeria | Recommendations on the development of a comprehensive national health policy that addresses the root causes of healthcare disparities in Nigeria were called for. |
| Awases and Nyoni | 2020 | Outbound Medical Tourism and the Implications for Health Equity in Africa: A Scoping Review | Seeks to conduct a scoping review of the literature on outbound medical tourism from Africa and its implications for access to health care | Scoping review | It identified poor regulation and accountability in outbound medical tourism from Africa, as factors which can lead to impacts like exploitation of patients and exacerbate healthcare inequalities | Offers recommendations to improve the provision of policies and regulations to ensure patient safety and equity in outbound medical tourism from Africa. |

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|---|---|---|---|---|---|---|
| Crooks, V. A., Kingsbury, P., Snyder, J., & Johnston, R. | 2010 | What is known about the patient's experience of medical tourism? A critical review of qualitative studies. | Examines patients experience in medical tourism | Qualitative review | The study findings show that outbound medical tourism poses challenges such as brain drain, loss of foreign exchange, and limited investment in domestic healthcare infrastructure | Recommends that priority attention should be given to patients demands and workers welfare in healthcare facilities. |
| Njuguna and Nzau | 2021 | Outbound Medical Tourism from Kenya: Motivations, Experiences, and Challenges | To explore the motivations, experiences, and challenges of Kenyan medical tourists | Qualitative study using in-depth interviews | Identified affordability, availability, and quality of healthcare as the main drivers of outbound medical tourism from Kenya. Also found that medical tourism can have negative impacts on the domestic healthcare system in Kenya | Recommends the development of policies and regulations to ensure patient safety and equity in outbound medical tourism from Kenya. |
| Smith and Delano | 2019 | Outbound Medical Tourism from | The study examines the implication | Literature review | The study Identifies a lack of regulation | Recommends the advancement of policies and regulations to |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | Africa: A New Form of Inequality | s of outbound medical tourism from Africa for healthcare equity | | and accountabilit y in outbound medical tourism from Africa, which can lead to exploitation of patients and exacerbate healthcare inequalities | ensure patient safety and equity in outbound medical tourism from Africa |
| Zalagh and Mounir | 2022 | Outbound Medical Tourism and Its Impact on the Healthcare System in Morocco | To examine the impact of outbound medical tourism on the healthcare system in Morocco | Literature review | Identified insufficient regulations and also found that medical tourism can have negative impacts on the domestic healthcare system in Morocco | Recommends the development of policies and regulations to ensure patient safety and equity in outbound medical tourism from Morocco |

**Research Gap**

Although there is a growing corpus of literature on medical tourism in Africa, there is a significant research gap regarding its implications for sustainable development in the region drawing from patients' perspectives. Research gap shows that sufficient studies that draw inferences from patients' perspectives have not been conducted on the effects of outbound medical tourism on Africa's sustainable development, hence the need for this research. This study fills this research gap by providing a thorough and critical analysis of the implications of outbound medical tourism for sustainable development in Africa using Interpretative Phenomenological Approach (IPA) for health care seekers.

**Theoretical Framework**

This study adopts two theoretical perspectives due to the nature of the investigation. The first is the theory of sustainable development, while the second is the theory of medical tourism.

**Theory of Sustainable Development**

The Theory of sustainable development was advocated by the Brundtland Commission, otherwise called the World Commission on Climate and Improvement. In 1987, Gro Harlem Brundtland presided over the commission, which published a report titled "Our Common

Future" outlining the principles and objectives of sustainable development. In order to satisfy the requirements of the present generation without jeopardizing the capacity of subsequent generations to satisfy their own requirements, the concept of sustainable development places an emphasis on the integration of economic growth, social progress, and environmental protection. It acknowledges that development must be pursued holistically and in a balanced manner, considering the long-term effects on society, the economy, and the environment. The above discussion of the effects of outbound medical tourism on Africa's sustainable development is very relevant to the theory of sustainable development. It provides a framework for comprehensively evaluating the effects of outbound medical tourism considering economic, social, and environmental factors. The loss of foreign exchange due to Africans spending huge amounts on medical expenses overseas weakens the economies and has broader economic implications. This aligns with the economic dimension of sustainable development. The difficulty of putting the theory of sustainable development into practice is one of its weaknesses. Regardless of broad knowledge about sustainable development, translating it to bring the desired benefit is quite challenging. To remedy this weakness, there is a requirement for strong political will, viable administration structures, and institutional systems that focus on practical improvement objectives.

**Medical Tourism Theory**

The "Theory of Medical Tourism" examines the reasons, drivers, and consequences of people crossing borders to seek medical care. Medical tourism, as opposed to typical healthcare models, includes persons purposefully seeking healthcare services outside of their native nations, generally for reasons such as financial savings, greater quality care, shorter wait times, or access to specialty therapies. The notion of medical tourism has no clear proponent or founder since it arose in reaction to the rising reality of individuals traveling for medical reasons. Yet, the study conducted by Crooks, et. al (2010) is significant in this respect.

The theory of medical tourism is extremely significant in the context of this work. It serves as a lens for examining the variables influencing the expansion of medical tourism in Africa, such as economic incentives, healthcare inequities, and global market dynamics. Understanding medical tourism theory aids in analyzing the ramifications for healthcare systems, local communities, and the African economy as a whole. One weakness of medical tourism theory is its propensity to focus solely on individual-level incentives and rewards, sometimes ignoring bigger structural and ethical implications. The idea may miss the possible negative effects of medical tourism on destination nations' healthcare systems, such as brain drain, resource allocation issues, or aggravation of healthcare inequalities.

To rectify this problem, a more thorough method is required. It is critical to address the larger implications and effects of medical tourism on both sending and receiving countries. This involves assessing the implications on local healthcare infrastructure, labor capability, and local population access to care. When developing medical tourism legislation and regulations, ethical factors such as the influence on fairness and social justice should be considered. Furthermore, international engagement and cooperation can assist to overcome the flaws in the medical tourism menace. This can include the creation of regional frameworks and agreements to promote responsible and sustainable medical tourism activities, as well as the exchange of best practices and the encouragement of capacity-building projects to improve local healthcare systems. In spite of the shortcomings of the two theories, their perspectives can give valuable insight into the phenomenon of outbound medical tourism in Africa and its implications for sustainable development. The study can develop a more nuanced understanding of the factors that drive outbound medical tourism in Africa and the potential benefits and risks associated with this phenomenon by drawing on these theoretical frameworks.

**Methodology of the Study**

To gain a thorough understanding of outbound medical tourism among bariatric patients, semi-structured interviews were conducted and data on the opinions of patients participating in a weight management program was collected under a number of subheadings. The interview questionnaire was created with unbiased methods.

**Population and Sample**

The Heart and Stroke Center introduced and welcomed adult volunteers who had been referred to the University of Ilorin Teaching Hospital (UITH) weight control program to this study. The research's eligibility criteria included any adult patients who had explored bariatric tourism, can communicate in English, and had adequate literacy to comprehend the study information leaflet and permission form. To maintain patient confidentiality, the obtained consent forms and interview transcripts were safely archived. The participants' average age and body mass index (BMI) were 45.35 and 50.1, respectively. Over the course of five months, 122 participants—71 female and 51 males—from nine different bariatric clinics were enrolled in the study. 108 of the participants were patients, 10 were health care givers and 4 were those involved in health tourism business. Typical of qualitative research, the objective was to get rich, thorough data rather than a huge sample size. Data saturation was achieved after twelve interview sessions.

**Data Collection**

The interview sessions were recorded on a protected midget (Voice Recorder). The information was handled privately. The audio recordings were afterwards kept on a laptop that required a password to access. Every effort was made to ensure that inquiries were made in a sensitive manner and that the rules of efficient medical communication were followed. The tapes were immediately translated into Microsoft Word files that were encrypted and kept on a computer after the interviews. Once the transcript was accepted, no information was left on the voice recorder. No information was sent or received through email or kept on transportable media like USB drives. The outcomes of the study were then thematically examined. On a networked computer system, the data analysis was conducted at the Department of Chemical Pathology, UITH.

## Funding
This study did not receive any financial support

## Analysis of Data
The Interpretative Phenomenological Approach (IPA), a qualitative method that enables a detailed examination of lived experiences in participants' own words, was used to examine the collected data. IPA is useful in navigating hazy and challenging subjects that include participants' emotions. After the analysis, the transcripts were thematically categorized to capture recurrent themes, and key components were chosen to address the research objectives.

## Results
Five themes emerged from the analysis of the interview data, and Table 1 summarizes them. Selected quotations from the coding process that better explain each of the topics are provided below.

**Table 2: Overview of Major Themes and Key Categorizations**

| **Themes** | **Key Categorizations** |
|---|---|
| Theme 1: Perceived Availability of quality bariatric treatment abroad | Organizing Tourism: Accommodations, Follow-up and Aftercare.<br>Patients are not willing to undergo surgical procedure in Nigeria.<br>Negative opinions in Nigeria about Bariatric Surgery and Tourism.<br>Absence of Social Support.<br>National Health Insurance Issue. |
| Theme 2: Reasons for bariatric surgery | Lack of self-restraint<br>Last resort to raise one's own standard of living<br>Health risk perceptions linked to untreated morbid obesity |
| Theme 3: Availability of authentic information and support regarding bariatric tourism outside Africa | Availability of Information<br>Existence of social groups for bariatric patients |
| Theme 4: Long waiting period for bariatric surgery and problems with the current wait-list system in Nigeria, which may consequently affect: | Patient mental health<br>Patient motivation<br>Patient fitness for bariatric surgery |
| Theme 5: Suggested solutions by the participants | Improved government support.<br>Improve the medical facilities at home.<br>Early Referral by Primary Physician.<br>Creating awareness to reduce stigma against bariatric patients. |

## Interpretations

### Theme 1: Perceived availability of quality bariatric treatment abroad.

Most bariatric patients believe they will receive support both while planning their trip and afterward. The support is usually offered by health tourism organizers. The absence of data with respect to ability of local physicians to execute the surgery with less dangers, and cost of the technique, and an organized subsequent framework to guarantee nonstop consideration always lead to somewhat unfortunate guess in the minds of patients.

"You have to find, gather all of the information you can, plan, and let people know what your plans are, how they will be carried out, how much time you will take off work, how much time you will be in the hospital, who will take care of you, and whether or not your primary care physician will be aware and whether or not he will take care of you well. Everything is something that you can do to remove your psyche from what's coming ahead. But when you decide to go abroad for the treatment, most of this information are readily available before you solicit for them" (Participant, 3).

"I prefer going abroad, doing the procedure here would be difficult to manage, I would be frightened of it as a matter of fact. I spoke with the bariatric surgeon, Dr (*....name withheld...*). He informed me that due to the size of the operation, it would take me a very long time to recover and that I would be in the hospital for at least three to four weeks following it. I doubt if this could happen abroad." (Participant, 11). "You wouldn't be seeing that individual [bariatric surgeon] easily here, whereas if you had it done oversea, you would return to your doctor and see him whenever you want to" (Participant, 5)."At a point when I felt, before I had complications, if it had reached the point where I thought, Yes, I need to do this, one of my options would have been to go to UK for it, definitely not here in Africa." (Participant, 14).

"I got asked by family, why I'm doing this surgery. My uncle who is a health worker was the only person who offered support and understood my condition. I was asked by everyone else why I couldn't just be normal by not eating junk" (Participant 3). "The question from other people is, why couldn't you do without it?" They are unaware of the struggle. Someone will always be present. Also, I would presumably be something similar. So, why did you not attempt dieting? For what reason didn't you attempt work out? You should be aware that no one will ever tell you, God, it must have been difficult to make the decision to do it, and fair play to you."(Participant 26). Meanwhile, few participants communicated their anxiety about a likely absence of family support if they somehow managed to get a medical procedure abroad. They insisted on the local option.

"Because it would be very long and lonely over there alone if you had nobody to help you."(Participant 29). "I have a girl who's 19 and my mother. They would be very supportive and close to me if I do it here." (Participant 21).

**Theme 2: Reasons for bariatric surgery.**
Majority of participants identified lack of self-restraint as a major cause for their choice of bariatric treatment abroad. "They claimed to have seen different dietitians, all they say is to cut down on some food consumption, which is almost impossible for them." Participants predominantly identified last resort to raise one's own standard of living as one of the primary motivations behind going through bariatric medical procedure. "They knew I needed the extra support if they wanted me to live past 40 because I cannot do it alone," stated Participant 1.

"Some participants emphasized the possibility of bariatric surgery serving as a requisite for weight loss. "I wanted to have just one of these surgeries to help me and use it as a motivational tool." (Participant 49). "Assuming that I was fit and dynamic and preferred my appearance, I would be more roused to keep my appearance. I dislike how I look right now. Therefore, I simply lack the motivation."(Participant 28). Overwhelming participants stressed their desire to keep up with or further develop their day to day life. "When I went back to the clinic two months ago, I was informed that having the surgery would significantly increase my chances of conceiving. I've always wanted to have a family." (Participant 64).

"You know, when you're so restless to oversee your life and to attempt to show up for your kids, and I need to be around my kids so I wouldn't pass on early on account of the weight."(Participants 51-73). Some of the participants appeared extremely concerned about the possibility of their own death as a result of morbid obesity-related complications. "Listen, I'm going to die if I don't have the surgery. I want to be aware; I must enroll in palliative care or another form of care in order to prepare for me. My medical conditions prevent me from doing so many things, and they're only getting worse. I was fit to get the medical procedure a long time back. I was physically functional, I was moving in front of an audience, I was in musicals, and I was out and had a day to day existence. I was driving everywhere for work. Now, I mostly have to be in bed." (Participant 53). "I would have the option to live longer and perhaps have a superior or better life." (11th Participant).

**Theme 3: Availability of authentic information and support regarding bariatric tourism outside Africa.**
The absence comprehensive information regarding bariatric surgery was one of the respondents' concerns. In Nigeria, it appears that those seeking such information are either unable to find it or are not made to be aware of it. Additionally, the participants emphasized the necessity of a social group network for bariatric surgery. In specific words of Participant 81 "I had a very hard time even finding the names of the various bariatric surgeons. I felt like I was hitting the wall trying to find information about bariatric surgery because the information just wasn't there."

"He [the endocrinologist] did say they will cut out a portion of my stomach so that you only have to eat smaller portions of food. There's nothing more to it. I've read a lot about the surgery, but am doing it myself. I'm not getting it truly from the clinical end." (Participant 72). Some said they did some research online. The participants also emphasized the significance of information availability and credibility (Participants 9, 11, 16-29, 53, 69-80). I was overjoyed when I arrived, met the local surgeon, and learned that I would finally undergo surgery. However, the meeting I had with him was entirely different. It was clarified for me what I need to go through yet. I also remain off the next surgery list. Therefore, it did cause me significant setbacks as there was no information on when it will be my turn, so I had to opt for abroad. (Participant90). All the participants (patients) showed interest in being engaged with a gathering to hear from other people who are likewise considering or have previously gotten bariatric medical procedure.

"It's good to talk to other people and learn about their experiences." (All the 108 patients alluded).

**Theme 4: Long waiting period for bariatric surgery and problems with the current wait-list system in Nigeria, which may consequently affect; patient mental health, motivation and fitness for surgery.**

One of the repetitive subjects of discussion was the unfavorable impacts the huge delay has on patients' physical and psychological qualification for bariatric medical procedure. The depleting physical and psychological readiness for medical procedure gave the impression that their emotional well-being is at stake. In fact, thirteen participants admitted to receiving depression treatment.

I don't know where I stand on the waiting list. I have discussed it with Dr. (...*name withheld*...), an endocrinologist, rather than the surgeon. I conversed with him in September (2022). He said they are pushing it gradually (Participant 96). "Since I was 21, I have been on a Lagos hospital's waiting list. I relocated to Ilorin, I'm still on the waiting list, now I turn 26. My wait list status has not been updated or communicated. Since I was young, I have wanted this surgery because I have struggled with family, social, and educational issues, among other things." (Participant No. 34).

"She (the general practitioner) told me that there was a long waiting list, but she expressed hope that it would soon be my turn as government is already employing more doctors." (Participant, 1). "I don't believe they even give priority. I believe it's simply about you are one important individual. As though they don't care about the past or that this person has suffered more than others."(49th Participant).

"You need to make the admission that you are terrifyingly overweight. It's disheartening when you admit to something and then, as I mentioned, four years later, you continue to admit it. It is very difficult to maintain momentum. I just have to sort for money to do the surgery abroad and spend the rest of my life making something of it." (99th Participant).

**Theme 5: Suggested solutions by the participants**
A participant who is a senior endocrinologist at the UITH lamented the attitude of some patients towards punctuality as regards clinical appointments. "Well, I want to suggest that they come promptly to their clinic, some of them would not present to their doctors on time and at appointed time, and they only end up complaining of delay and long queue (Participant 109). Improving Government Support. All the participants emphasized the need to amend and address the existing bariatric support system in Nigeria at the government level. They suggested that government should increase the funding available to health care system and health care workers in Nigeria to guarantee the needed efficacy of medical facilities at home. Early referral by Primary Physician was also a subject of concern by some of the participants, they suggested that; "it is crucial in promoting healthy weight, for primary physicians to refer people early enough rather than allow cases to linger on till complications set in. (Participants, 14, 29, 31, 36, 47, 48, 51, 66, 72, 83-88, 94, 106).

There is need to continuously create awareness to reduce stigma against bariatric patients. Perceived obesity-related discrimination may impose greater physical symptoms and worsen mental health. It has been reported that the most people in Nigeria assumed that those who are obese to be lazier and incompetent for anything. "The belief and attitudes towards bariatric patients have to change, many people see us as big for nothing." (Participant, 8).

**Discussion**
There has been a significant increase in outbound medical tourism in Africa over the past decade. Patients with bariatric ailments and other diseases travel abroad primarily for access to high-quality medical care, shorter waiting times, and specialized treatments that may not be available in their native countries. Nevertheless, the investigation revealed that this trend has significant implications for sustainable development in Africa. Specifically, outbound medical tourism has led to loss of domestic medical talent, deplete financial resources from the local health system, and perpetuate global health disparities.

For instance, on financial costs which have far reaching effect on sustainable development in Africa, the continent is said to be losing over one billion dollars to outbound medical tourism on annual basis. The World Bank estimates that Africa spends approximately $1 billion annually on medical tourism abroad (World bank, 2013). Kenyans are spending about $80 million to look for therapy for conditions like malignant growth and cerebrum cancers in India (World bank, 2020). The Nigerian government has admitted that Nigerians spend between $1.2 and $1.6 billion on outbound medical tourism annually (Guardian, 2022).

The political elites who should have rescue the situation are not helping matters as they've been found in the cobweb of the menace which by implication hinders the growth of Africa's health sector. Although, their choice to go abroad and neglect their countries' health system has unleashed more hardship on the African citizens, it has equally not saved them from being traumatized abroad as some African leaders have met death while accessing health care oversee. Former President of Nigeria, Umar Yar'adua died in Saudi Arabia, former Nigerian First Lady, Stella Obasanjo died in Spain, Levy Mwanawasa of Zambia passed away in France, Meles Zenawi of Ethiopia in Belgium, Omar Bongo of Gabon in Spain,and Robert Mugabe of Zimbabwe in Singapore hospital ( Africa news, 2019). The list of political medical tourists in Africa is long. The question that comes to any critical mind is, if going abroad to access health care does not stop African leaders from dying, why not improve on the domestic health sector? Perhaps it would save them in case of emergencies.

Despite the death cases recorded about some African leaders seeking health tourism abroad, others are yet to pick inference from it and develop their country. For example, Nigerian President Muhammadu Buhari went to London for four months in 2017 for infamous medical treatment. The estimated cost of parking Buhari's plane while he was in London in 2017 is £360,000, or 0.07 percent of Nigeria's budget for health that year (Premium times, 2017). In Uganda, the assets spent to treat top government authorities abroad could build ten clinics (The Observer, 2019). In addition to traveling in costly chartered aircraft, the leaders also travel with extravagant entourages. Benin Republic President, Patrice Claw and Ali Bongo, leader of Gabon were other top African leaders who were found of chasing medical tourism abroad, France and Saudi Arabia are the favorite destinations of both.

Interestingly, there is a billion-dollar medical tourism market in Africa, and partnerships with African leaders can be the key to identifying this potential. If African leaders invest in local health infrastructure and human resources, brain-drain will reduce as health care providers will be encouraged to stay in Africa, also African countries will be able to guarantee that their citizens have access to high-quality medical care, thereby certifying their confidence in the local health system, disabusing their minds from carrying huge resources that could be used to develop their nations to oversee countries, and consequently advancing the course of sustainable development in Africa.

## Conclusion

This study is inter-disciplinary research between researchers from Department of Chemical pathology, University of Ilorin Teaching Hospital offering insight from medical perspective and the Department of Political Science, University of Abuja, proffering insight from policy and development perspective. The first author conceived and designed the study with input from the second author. The second author conducted the interviews. Both authors coded the interview transcripts. The second author facilitated access to the patients interviewed in this study. Both authors interpreted the coded interview transcripts and agreed on the thematic analysis. The first draft of the manuscript was prepared by the first author and its technicality was edited by the second author. Both authors read and approved the final version of the manuscript.

The study concludes by highlighting the rising trend of outbound medical tourism in Africa and its potential implications for sustainable development. While this trend can be advantageous for patients seeking medical care abroad, it also poses significant challenges that must be addressed in order to promote equitable and sustainable health systems in Africa. Also by investing in local health infrastructure and human resources, fostering partnerships and the transfer of knowledge, and prioritizing investments in public health programs, African countries can ensure that their citizens have access to high-quality medical care while promoting sustainable development. This study contributes to the existing literature on medical tourism and sustainable development and provides valuable insights for policymakers and healthcare professionals in African nations. The study also contributes to the larger academic and policy debate on the role of medical tourism in sustainable development, especially in the context of low- and middle-income nations.

**Recommendations**

To address these obstacles, the study proposes some measures for promoting sustainable development in Africa and meeting the needs of patients seeking medical treatment abroad. These measures include:

1. Investing in local medical infrastructure and human resources to enhance the quality of care available in African countries.
2. Developing regulatory frameworks and standards to guarantee the quality and safety of medical tourism services by policy makers in Africa.
3. Promoting partnerships between African and international medical institutions in order to facilitate knowledge transfer and capacity development for health care workers in Africa.
4. Increasing health equity by prioritizing public health programs and primary care service investments.
5. Healthcare providers should appropriately follow up with his or her patients and work in their best interest upon mutual agreement to establish a physician-patient relationship. Healthcare professionals must also keep in mind that many patients particularly those living with bariatric symptoms have associated depression, making it difficult for them to maintain so many years of evaluations, hence the need to take their case critical and work on the long-waiting-list of patients.
6. Patients should also have confidence on the local health care providers and think Africa first because many medical tourists come back home to confirm that they were treated by health practitioners of African descent in most of the hospitals they go to abroad.

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# RESEARCH ON DEVELOPMENT ADMINISTRATION AND THE CHALLENGES OF INTERNATIONAL DEVELOPMENT

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**Abstract**

*The article addresses in greater depth some of the central issues of the contemporary international development discourse. The focus of my article is the perspective of 'development administration', a research area in administrative science'. The central issues of the article include the conceptual issues concerning development administration in administrative science and the challenges developing countries are facing in: (a.) coping with modernization and economic globalization; (b.) promoting good governance by ensuring administrative decentralization and local development; and (c.) ensuring the sustainability of Non-Governmental Organisations (NGO)-led development initiatives. The article argues that there exists very little scientific research, neither conceptual nor empirical, on development administration in Nigeria. Therefore, academic study on issues related to 'development administration' and 'international development' has vital importance for the current development discourse in Nigeria and abroad.*

**Keywords***: Development administration, Development assistance, Economic globalisation, Social capital, Good governance, NGOs.*

## Background to the Study

Since the 1950s, the study of 'development administration' has been viewed as part of the study of public administration. (Siffin 1991,7) Development administration refers to the administration of development programmes; to the methods used by large-scale organizations, notably governments, to implement policies; and plans designed to meet their development objectives .A second meaning associated with the term 'development administration' also involves the strengthening of administrative capabilities.(Riggs 1977, 6) Thus the term 'development administration' refers to organized efforts to carry out programmes or projects thought by those involved to serve developmental objectives.(Riggs 19776, 73Siffin seems escapist about development administration, as in his view it focuses on matters outside the boundaries of conventional public administration. (Siffin1991,11-12)1e comments on the problem of development administration (1991, 8), arguing that there really isn't much of a problem, in as much as there isn't much of a field. Development administration is a term that implies question: How can the ideas and mechanisms of public administration be used as instruments of social and economic development? Riggs states: 'how does the study of development administration differ from the study of public administration in general, or even from the study of comparative administration? No dear answer to this question can be given. (1977, 3).

Jreisat (1991, 19-20) is more optimistic about the concept than Sillin. He dams that comparative and development administration offers a rich heritage of scholarly contributions that include studies of numerous countries, cultures, organizations, and groups. Katz has, rather, identified the borders between development administration and public administration (1977, 120-121). In his opinion, development administration differs from traditional public administration in its objectives, scope, and complexity. According to him,' the terms 'administrative science' and 'public administration' have been used interchangeably in this article. Development administration is innovative, since it is concerned with the societal changes involved in achieving developmental objectives. In its quest for change, the government becomes concerned with a wide scope of activities. No longer is it limited to the maintenance of law and order, the provision of some limited public services, and the collection of taxes; rather, it is specifically involved in the mobilization of resources and their application to a great variety of development activities on a massive scale.' (Katz 1977, 120).

Despite all these analyses and arguments, it is obvious that the context and scope of development administration is very central to administrative science, the subject widely known as public administration. The concept emerged in the post-World War II era of nation-building and administrative reforms in post-colonial states in the developing world. The concept often refers to 'the two fields of public administration and Development, which can be combined under the heading of "development administration" or administrative aspects of development.' (Riggs1978, 1, italics added) Since its inception, the concept of development administration has mainly been employed in studying 'administration 'and 'development' in developing countries. Development administration is most often treated as a facet of comparative public administration. In his most widely used book 'Pubic Administration: A Comparative Perspective' Ferrell Heady (1966) focused on public bureaucracy as it exists within different types of political systems. He sketched five general features of public administration in developing countries, and carefully examined the interplay of bureaucracy and politics. (Siffin 1991,8).

Riggs (1977, 3) provides the insight that the Comparative Administration Group (CAG) of the American Society for Public Administration (ASPA) played a significant role in the emergence of the concept of development administration in the 1960s. Administrative problems in the developing countries were a significant concern of their comparative study of public administration. Riggs and his CAG were supported by the Ford Foundation (Henderson 1971, 234). Thus, under the auspices of comparative studies of national public administration, development administration became more prominent as an independent concept in public administration studies in developing countries. One significant change in the 1967 version of US Agency for International Development (USAID) administrative doctrine, as embodied in the agency manual, is the emphasis on 'development administration', curiously without once using that popular term at all. (Abueva1969, 554) Despite its growth as an independent area in public administration since the 1950s, academic studies in development administration was losing its momentum throughout the 1980s in the industrialized countries (See e.g. Hossain 2001, 37) and again started to regain in the turnoff the century (See e.g. Collins 2000, 3).

**Public Administration and Development administration: The Theoretical Gap of the 1980s**

Despite the above discussion, throughout the1980s the mission of public administration in developed countries reached a different stage. During the 1970s, administrative reform in developing countries was an influential catchword (Siffin 1991,9) which was usually understood as a subject matter of development administration.

However, Hussain (1994, 11) argues that developing the capacity of bureaucracy did not help much. Training imparted to bureaucracy did not correspond to the needs of the developing countries because training techniques and contents remained Western or American. Reflection of Hussain's view also could be founding the recent American literature on public administration. After several decades of scholarly contribution to the field of comparative and development administration, Professor Fred W. Riggs in his recent (2001, 1) writing concluded that American public administration is truly exceptional and has limited relevance to the solution of administrative problems in other countries. Nevertheless, it is so widely imitated and viewed as a model that anyone studying Public Administration needs to understand whither American system is exceptional and why its practices are so often irrelevant in other countries. Such an understanding requires a comparative analysis of different regimes based on the same constitutional principles -- i.e. the separation of executive, legislative and judicial powers -- and the identification of the peculiarly American structure of a hybrid bureaucracy. In the 1980s 'privatization' got labeled as the subject matter of public administration (Siffin1991, 9) which covers a limited sphere of the organizational landscape in developing countries, as compared to the developed world.

The best-known forums of public administration like the Minnow brook 1 (in 1968) and 11 (in 1988) concentrated their theoretical focus on Us administration and suggested reforms in that system. The 1968 theoretical discussion was mainly on 'ethics, social equality, human relations, reconciling public administration and democracy, and concern for the state of the field. However, several 1988 themes were not as prominent in1968, notably leadership, constitutional and legal perspectives, technology, policy and economic perspectives.' (Frederickson 1989,100) Thus the discussion in both of the Minnow brook forums naturally was far from the central concerns of public administration in developing countries. Due to the widening gap between the economies of rich and poor countries, over the decades the operational landscape of organizations had become complex internationally. As a result, 'development administration' was left behind on the journey of public administration sometime in the 1980s - although the subject matter of development administration is not a separate discipline from public administration.

However, like Paul Collins (2000, 3), many scholars in public administration feel that the turn of the century is an appropriate time to reflect on the impact of public administration on development and in turn, the impact of facets of development on administration. The issues confronting us are serious and include the failure of existing systems to cope with growing gaps between rich and poor within and between Countries with environmental degradation with frequent conflict between and within states and growing distrust of government generally.

**The Absence of Development Administration in Development Assistance**

Much has already been said about development administration and its relevance to public administration studies. World Bank has found that some 51 per cent of its rural development area projects during the period 1965 to 1985 failed to achieve the Bank's minimum acceptable rate of return of 10 percent (Turner and Hulme 1985failed to achieve the Bank's minimum acceptable rate of return of 10 percent (Turner and Hulme 1997, 140). Samuel Paul (1986, 1) argued that administration or management has always been identified as a neglected factor in development project activities. Even in recent days, in practice, theories of development administration have very little been used or applied in planning and implementation of development projects and programmes in developing and transitional countries. Therefore, there is a general concern that most of the failed development programmes could not reach their developmental goals only because the stakeholders focused too little attention on the administration of development programmes. Scholars (Turner and Hulme 1997,141-144) also claim that the challenges of development, particularly in rural areas, are not 'well structured' problems, as project planning methodologies assume but are 'ill structured 'or simply 'a mess'. Orthodox project planning methodologies demand large amounts of reliable data.

In most developing countries such data is not available and so planners have to make assumptions. Another feature of project management in developing countries is uncertainty and instability. separation of planning from management causes serious problems belatedly in the 1980s, project planners have begun to recognize the problems of implementation. The lack of beneficiary participation also causes serious problems. All these factors make the development projects vulnerable to the long political processes in which aid agencies, political parties, local élites, politicians, bureaucrats, and other interest groups act. As a result, the extent of rural poverty has not been reduced or may have worsened in recent years. (Quibňa 1994, Hossain 2001).

Theoretically, the study of development from the administrative science perspective has been weakening since the 1980s because public administration in developed democracies, i.e., in the richer parts of the world has dealt with some other aspects relevant to their everyday business. Therefore, advancing scientific studies on development administration has vital importance for fostering better understanding both academically in higher educational institutions and practically in the field, where development programmes are basically carried out. In order to address these issues, there is a great need to advance academic understanding regarding the existing theories.

**Development Administration and International Development: The Contemporary Research Agendas**

Theoretically, the research on development administration should be carried out with a broader perspective with the intention to make conceptual contribution to the study of administrative science. Scholarly, research should try to bridge the theoretical gap between development administration and public administration studies which has developed during the 1980s and1990s between developing and industrialized countries. (Hossain 2001, 37) Due to its strong roots in development studies, development administration itself is a multi-disciplinary area of study. Therefore, with any single research approach, not all areas of development and their administration could be focused on in a limited time span. That is why the research agenda should be thematically very in depth and designed to cover the very central issues of the contemporary international development discourse (See also e.g. Collins 2000, 3-14). Multi-disciplinary orientation of development studies should no way be lost in the study of development administration. However, the aim should be to make theoretical contribution in the area of administrative science and practical contribution in the area of development management.

For example, scholarly work on the following thematic issues has vital importance in the contemporary development administration and international development discourse:

1. Development aid in the context modernization: the harmony and/or tension between social capital and economic globalization.
2. Challenges in good governance: administrative decentralization and local development in the South
3. Donors, NGOs, and the states in the developing world: the sustainability of NGO led development programmes.

Each of the above topics is very large in scope and requires deep understanding of these issues and themes reflected in each of the topics. Thus, careful selections of theoretical approaches in addressing these research topics are of vital importance in carrying out any study on the above topics. The thematic discussion of the above topics is further discussed below with theoretical references.

**Economic Globalization and Social Capital**

Economic globalization has mostly been studied specially by the scholars in development economics, history, sociology and anthropology. Despite the economic advances (World Bank2000) in many parts of the developing world, David Korten (1996, 127) argues that globalization has rendered many of the political roles of government obsolete as well. Companies with globalized operations routinely and effortlessly side step governmental restrictions based on old assumptions about national economies and foreign policy. 'Renato Ruggerio, ex-Director of the World Trade Organisation stated: "We are creating a single global economy". Embedded within this new single global economy is a set of liberal European epistemologies which define human beings as economic units and the free market as a rationally operating framework within which perfect competition exists which has its roots in the mercantilism of the earliest forms of imperialism and which is deeply flawed ideologically.

Economic liberalism and free trade are the linchpins [sic] of the new economic order designed to carry humankind on a wave of economic triumph into the new millennium.'(Harawira 1999) The recent protests against economic globalization in many parts of the world make us re-think its dynamics and drawbacks. However, the study of economic globalization is largely lacking in the public administration literature. 'Social capital' refers to stocks of cultural elements such as social trust, norms and values that people can draw upon to solve common problems for mutual benefits. (Li 2001, 130). Analogous to notions of physical capital and human capital-tools and training that enhance individual productivity--social capital refers to features of social organization such as networks, norms and social trust that facilitate coordination and cooperation for mutual benefit. (Putnam1995, 67) Studies on social capital have been addressed by the scholars of administrative science (e.g., Harisalo and Miettinen 1997, Putnam 2000). Putnam's study reveals a competing scenario between social capital and modernization in the US and reveals America's declining social capital over the last three decades or so. Economic globalization and modernization contribute each other in order to survive. Development aid promotes modernization in the developing world. The mission of most of the development projects is to modernize traditional societies through a process called 'transition'; such societies are also referred to as 'prismatic societies' by Riggs (1978). Professor Dor Bahadur Bista (1994) has empirically presented the consequences of modernization and development aid and his study on fatalism and development bears commenting on at some length in this regard. A well-planned research agenda addresses the findings presented by Korten (1996) on economic globalization and Putnam (2000) on social capital could contribute an in-depth theoretical contribution to the study of international development by examining the inter linkages between these two influential concepts in social science.

**Good Governance and Decentralization**

The notion of 'good governance' was introduced to international development cooperation in the late 1980's following discussions in mainly World Bank circles on the results of structural adjustment policies. It developed into a somewhat confusing and controversial term. (Kruiter 1996) Theoretically the scope of governance is wide and covers larger issues such as administrative reform, national development policies, democratization, decentralization, corruption, partnerships between the public, private and the third sector, and other areas of public affairs (see, e.g., Turner and Hulme1997). Among the above, research on administrative decentralization has got a tradition and direct relevance to the study of comparative and development administration. Including administrative decentralisation, the other issues of good governance mentioned above (Turnerand Hulme 1997) have also got a growing importance in the contemporary international development discourse and covers the central aspects of development administration.

A major obstacle to the effective performance of public bureaucracies in most developing countries is the excessive concentration of decision-making and authority within central government. Decentralisation within the state involves a transfer of authority to perform some service to the public from an individual or an agency in central government to some other individual or agency which is closer to the public to be served. However, in practice, the challenges of good governance through decentralisation are many. In most developing countries, there has been a tendency for independent governments to prefer delegating power within the public service rather than to locally elected authorities. There has been much rhetoric about participation and local autonomy but central governments have jealously guarded their power. (See, e.g., Turnerand Hulme 1997, 151-174; Seppälä 2000,48-57). Thus, in practice, governance has remained far from being able to be called 'good'.

It is true that academic research in public administration and international development covers the central issues cutting across traditional subfields of international relations, political science and public administration. However, research on good governance and administrative decentralisation is more central to public administration than any other fields in social sciences. Therefore, there are scopes for scholars in administrative science to make scholarly contribution in the areas of the challenges in good governance and search for a possibility for local capacity building in developing countries.

**NGOS And the Sustainability of Ngo-Led Development Projects**

The role of Non-Governmental Organizations (NGOs) in managing development initiatives in developing countries has been very central in contemporary development aid discourse. Development projects run by NGOs are assumed to be flexible, innovative, participatory, cost effective and directed to the poor. Several social, economic, political and cultural arguments exist to justify the advantages of NGOs (for details seeing., Hulme 1994, Tvedt 1995 and 1998b, Vartolaet al 2000, Hossain 2001, and others). 'Market failure' and 'government failure' are considered the leading reasons for the growth of NGOs. (Asheier and Seibel 1990, 1) Scholars argue that this growth of NGOs reflects dissatisfaction with both the state and the market. On the other hand, the use of NGOs has been consistent with both the New Right aid policies of governments in the USA and UK and the 'alternative' aid policies of the donor community in the Nordic countries and the Netherlands. (Hulme 1994, 251 and 265) The restructuring policies of the World Bank and other influential donor institutions (e.g., in OECD countries) led to a planned reduction of the role of the state in developing countries and increased space for development NGOs.

However, the sustainability of NGO-led development initiatives is questioned in the social science literature from different angles. A development programme is considered sustainable when it is able to deliver an appropriate level of benefits for an extended period of time after major financial, managerial, and technical assistance from an external donor terminated. (OECD 1989, 7) Among others, a recent study (Hossain 2001, 11) argues that despite the said comparative advantages of NGOs, their development projects remain unsustainable in many developing countries. Research also suggests, the idea, for example, that NGOs have the comparative advantage that they are generally assumed to have in the literature on NGOs in development, has been falsified. (Tvedt 1997, 1) Despite these arguments, since the 1970s NGOs have rapidly been growing over the OECD and developing countries. Due to the lack of reliable data the number of development NGOs, their total aid volume and the number of beneficiaries cannot exactly be stated (see, e.g., Tvedt 1998b,10). It is also difficult to estimate because the distinction between the traditional welfare organizations and the modem development NGOs, connected to international aid system is not clear. However, it is estimated that about 4,000 development NGOs in OECD member countries, dispersing billions of dollars a year, were working with about 10,000 to 20,000'Southern' NGOs (based in developing countries) who assisted, it has been estimated, between 100 and 250 million people (Tvedt 1998b, 1). Therefore, in-depth and thematic empirical studies on the topic should examine the sustainability and the comparative advantage of NGOs in developing countries. Such studies on the topic definitely will enrich the literature of development administration and will bring valuable insight to the actors involved in international development in carrying out their development assistance to developing countries.

**Concluding Remarks**

Theoretically, it is not easy to solve all the challenges development administration is facing today as a sub-field of public administration. Development aid in the development process of the least developed countries has been playing an important role in recent decades. Bilateral, multilateral and other international donors are also facing new challenges in their development efforts in developing countries. It is misleading to generalize the merits of development aid.

Generalizing the drawbacks of development aid and efforts could also be misleading. Compared to other European Union and Nordic countries, development administration has been less studied in Nigeria in general and in Finnish administrative science studies in particular. There exists very little scientific research, neither conceptual nor empirical on development administration in Nigeria.

Research on social capital, modernization and economic globalization can bring valuable insight and can make significant contribution to the administrative challenges of development management and international development. The socio-economic development of developing countries directly depends on how these countries are governed. Therefore, by ignoring the present day's challenges of good governance and administrative decentralization, no development initiatives will be able to ensure a sustainable progress in developing countries. Since the 1970s, the performance of development NGOs as alternative development organizations has been generally appreciated by the aid donors despite the fact that most of their development initiatives are heavily dependent on foreign aid and the projects are not sustainable. Sustainability of NGOs led development projects can be ensured by improving the managerial capacity of the NGOs. The above topics are very central to the contemporary international development discourse and needs to be researched. Therefore, academic studies on the above issues related to "Development Administration" and "International Development" has vital importance for the current development discourse in Nigeria and abroad.

In addition to the economic community, the main user group of the information produced by academic research on these topics could definitely be the stakeholders (e.g authorities, political decision-makers) involved in international development both in the South and North. Theoretically, identifying the dynamics and drawbacks of development administration and practically, searching for better ways to carry out international development effectively, largely depends on the future interest and ability of academics and practitioners to study the subject properly.

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# UNRAVELING THE CHALLENGES OF WASTE -TO-ENERGY TRANSITION IN EMERGING ECONOMIES: IMPLICATION FOR SUSTAINBILITY

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## Abstract

*The recent geopolitical events, such as the conflict between Russia and Ukraine have strained the available resources worldwide. In emerging economies like Bangladesh which is heavily reliant on imported gas, oil and coal, this has created a severe energy crisis. In response to the energy crisis and to support eco-friendly waste management, converting waste into energy is being recognized as a promising solution. However, introducing waste-to-energy systems in developing economies faces many intricate challenges that require careful examination. This study therefore, aims to explore and evaluate the challenges associated with adopting a waste to energy (WtE) conversion system in emerging economies like Bangladesh. The research methodology involves identifying challenges from an extensive review of existing literature and expert feedback and then combining Bayesian theory with Best Worst Method (BMW) to evaluate the challenges. Among the 21 challenges analyzed, the "need for well-developed planning and incentivized policy making', 'ineffectiveness in waste segregation at the source', and "high cost for installation, maintenance and infrastructure development appear to be the most significant challenges with weight values 0.071,0.067 and 0.066 respectively. The study can enhance managers' understanding of the challenges faced by this sector and thus facilitate informed decision-making. The outcomes of this study are expected to enrich the existing body of knowledge, promote the diffusion of WtE technology in emerging economies, reduce dependency on the international energy market and achieve global sustainable development goals (SDGs) such as affordable and clean energy (SDG7), sustainable cities and communities (SDG11) and climate action (SDG13).*

**Keywords**: *Waste-to-energy, Renewable energy, Emerging economy, Sustainable development, Bayesian best worst method.*

**Background to the Study**

Waste generation is a significant environmental challenge that is rapidly increasing globally. As the global population is anticipated to increase in the coming decades, there is a projected surge in waste generation at an unprecedented pace. In recent years, the acceleration of urbanization, industrialization, and economic growth has led to an intensified pace of waste generation. Municipal solid waste (MSW) among various waste types has emerged as the most substantial contributor (). MSW includes waste originating from residential, institutional, and industrial sources and comprises a vast array of sub- stances, including food and vegetable waste, paper, plastics, metals, glass, textiles, wood, grass, leaves, and various organic and inorganic substances (). The amount of waste generated globally is truly astounding, with the World Bank estimating an annual production of almost 1.3 billion tons of MSW, and this figure is pre- dicted to rise to 2.2 billion tons by 2025 and further escalate to 2.59 billion tons per year by 2030 (). By 2050, it is predicted that the annual MSW generation will reach a staggering billion tons, presenting a formidable environmental challenge ().

The inadequate management of MSW has significant detrimental effects on both the natural environment and biodiversity and the well- being of people, particularly in the least developed and developing nations like India, China, Bangladesh, Thailand, and Malaysia ( ). The swift expansion of the population, along with speedy industrialization and urbanization, has resulted in the generation of large quantities of waste that pose significant challenges in terms of proper handling and disposal. A substantial portion of MSW is disposed of through open dumping in landfills, leading to soil and water contamination and air pollution caused by waste incineration. These activities harm the local environment and human health, leading to respiratory problems and other diseases (). Furthermore, land- fills produce significant methane, a potent greenhouse gas contributing to climate change. Worldwide, MSW generation has resulted in the re- lease of 550 million metric tons of methane emissions each year, exacerbating the effects of climate change ().

Historically, MSW management relied on open landfills and burning, causing environmental issues, but contemporary approaches emphasize sustainability through practices like recycling and incineration (). The efficient management and disposal of MSW pose substantial challenges for municipal and city corporations' authorities in many developing nations like Bangladesh, primarily due to the continuous waste generation and the associated huge costs of handling it (; ).

In Bangladesh's urban areas, the annual waste production is estimated to be around 633,129 tons, which is equivalent. MSW is recognized as a renewable energy source alongside hydro, solar, wind, and other clean energy forms by The United States Environ- mental Protection

Agency (EPA) (). In addition to the challenges in waste management, Bangladesh also faces energy shortages due to its heavy reliance on imported fuels. The ongoing Russia-Ukraine conflict and rising oil prices have resulted in an energy crisis in the country, with frequent power outages and load shedding affecting households and businesses. Considering the prevailing circumstances, the conversion of MSW into energy holds promise as a potential solution to address both the waste management and energy challenges in Bangladesh. The government has acknowledged the significance of the Paris Agreement, 2015 and Sustainable Development Goals (SDGs) (; ).

Even though Bangladesh has recently advanced from a least developed country to a developing one, its energy sector is still very reliant on the international energy market, especially for fossil fuels ( ). According to the most recent Bangladesh Power Development Board report, 53.02% of electricity in Bangladesh is generated by natural gas-based power plants, with the remaining 46.97% coming from a combination of HFO, high-speed diesel (HSD), imported power, hydropower, coal, and solar power, accounting for 25.51%, 6.14%, 5.54%, 1.1%, 8.06%, and 0.62% respectively (). However, the country is now trying to move away from the fossil fuel intensive electricity generation mix to comply with the global decarbonization initiatives (). Embracing decabonization technologies in the energy sector is very important to curtail CO2 emissions and move toward a low-carbon future ( ). Among various sources of clean energy, waste to energy (WtE) is recognized as a renewable energy source that efficiently converts discarded municipal solid waste (MSW) into electricity and heating steam, making it a more sustainable alternative to land filling with reduced land requirements and solid waste volume (). Proper handling of MSW poses a significant challenge for a developing nation like Bangladesh. Adopting WtE can be a good solution to both the MSW management problem and the ongoing energy crisis.

The successful WtE conversion can significantly contribute to the achievement of multiple SDGs. Firstly, by ensuring a green energy source at a lower cost, WtE technologies contribute to SDG 7 (Affordable and Clean Energy). Furthermore, implementing WtE requires infrastructure and capital, thereby promoting innovation and the development of industries, aligning with SDG 9 (Industry, Innovation, and Infrastructure). Moreover, WtE technologies help reduce waste in land-fills and the environment, thereby promoting the practice of consuming and producing goods and services that minimize negative impacts on the environment and society and support SDG 12 (Responsible Consumption and Production). Additionally, by capturing methane produced from organic waste in landfills and reducing waste that would otherwise be burned or left to decay, WtE conversion aids in reducing greenhouse gas emissions, aligning with SDG 13 (Climate Action) and SDG 15 (Life on Land).

While transitioning to WtE, numerous challenges and complexities encompassing environmental, technological, economic, regulatory, and societal aspects arise that necessitate careful consideration and strategic planning. Numerous studies have focused on different aspects of WtE, such as environmental impact assessment (), technological evaluation such as biological treatment, thermal treatment, landfill gas utilization and bio-refinery technologies, among others () and potential scenarios for enhancing climate co benefits. Within the vast and diversified field of WtE research, our study redirects the spotlight towards the critical but often overlooked aspect of barriers and limitations that impede the successful implementation of waste-to-energy solutions in emerging economies like Bangladesh. By doing so, this study aims to contribute to the body of knowledge that can lead to formulating policies and strategies for a more sustainable and efficient WtE transition. Therefore, this study aims to fill the knowledge gap by answering the following research questions (RQs).

RQ1: What are the challenges that need to be addressed to implement the WtE transition in an emerging economy like Bangladesh?
RQ2: How can we evaluate the challenges involved in achieving energy sustainability?
RQ3: How can each challenge's relative importance impact the successful WtE transition in an emerging economy like Bangladesh?
RQ4: How can the study's findings be effectively appraised to guide decision-makers in implementing strategic measures to promote energy sustainability?
To answer the questions raised earlier, this study will attempt to fulfill the following research objectives (ROs):
RO1: To apply an integrated approach consisting of an extensive literature review and expert feedback to identify the challenges impeding the successful WtE transition from an emerging economy perspective.
RO2: To evaluate the identified challenges using an integrated multi-criteria decision-making framework.
RO3: To assess the potential impact of the challenges on the successful WtE transition based on their relative importance obtained from the evaluation.
RO4: To provide crucial insights to decision-makers and policy makers based on the obtained results for efficient strategic planning to facilitate the successful WtE transition and promote energy sustainability.

To accomplish the previously stated ROs, this study proposes a structured framework to identify, prioritize and assess the challenges associated with implementing WtE conversion in Bangladesh. This framework involves the following steps; -

I. Conducting a comprehensive literature review to identify the challenges associated with WtE implementation in emerging economies like Bangladesh
ii. Conducting interviews with pertinent stakeholders in Bangladesh to obtain a comprehensive understanding of the challenges involved and seek their feedback to verify the challenges identified in this literature review
iii. Conducting a survey for analyzing challenges to collect data from experts in the field regarding the identified challenges
iv. Analyzing the collected data using a multi-criteria decision making (MCDM) approach named the Bayesian BWM technique, which relies on pairwise comparisons to prioritize the identified challenges effectively

v. Prioritizing the challenges based on the Bayesian BWM analysis

This study intends to address current hurdles and establish a trajectory for future researchers in the domain of WtE transition, thereby presenting a comprehensive roadmap for scholars and practitioners. Examining and understanding the challenges can facilitate the implementation of WtE technologies and the formulation of relevant long-term policies. The tangible outcomes of this study hold the potential to directly and substantially benefit the energy sector stakeholders. The study can also say that policy makers, offering critical insights that can contribute to formulating effective and sustainable energy policies in the context of emerging economies. This work can also encourage the industry stakeholders to explore deeper and contribute further to the evolving landscape of WtE. The research therefore, can emerge as a valuable bridge between theoretical insights and practical applications, fostering a more informed and collaborative approach towards a sustainable future. The rest of the paper is structured as follows: section 2 presents the literature review, section 3 describes the methodological approach of Bayesian BWM including the study context and data collection; section 4 exhibits the results; section 5 discusses the findings of the study and the study implications from theoretical, practical and sustainability context while section 6 concludes the study.

**Literature Review**

Currently, Bangladesh has a combined installed capacity of 26,550 MW for captive and renewable energy sources according to . However, there are plans outlined in Vision 2041 () and the power system master plan ( ) to increase this capacity to 40,000 MW by 2030 and 60,000 MW by 2041. According to the Integrated Energy and Power Master Plan (IEPMP) developed by the Japan International Cooperation Agency (JICA), it is anticipated that at least 40% of the 60,000 MW of electricity generated by 2041 in Bangladesh will come from clean energy sources. This aligns with Bangladesh's objective of achieving carbon neutrality by 2070 as stated in . The power sector is crucial for socio-economic development, fostering industrial growth and poverty reduction and renewable energy sources such as waste-to-electricity will play a significant role in achieving these targets ().

The government of Bangladesh established the Sustainable and Renewable Energy Development Authority (SREDA) to tackle concerns related to global warming, environmental risks and energy security. SREDA works towards achieving these goals by reducing reliance on fossil fuels and promoting the adoption and expansion of various renewable energy sources. Additionally, SREDA focuses on reducing energy waste in residential and different industrial sectors through energy conservation and efficient utilization (). In Bangladesh, utilizing organic waste components such as plant residues, agricultural waste, organic fertilizer, food waste, animal manure, green waste, and other MSW for biogas production has emerged as an effective waste management system. Biogas serves multiple purposes such as cooking and organic fertilizer for fishponds and crops. As of June 2020, 76,771 biogas plants have been established in Bangladesh and several programs and projects are being implemented to develop biogas plants further (). Poultry waste-based biogas plants have been the most successful in generating gas for electricity production and the remaining residue is a high-quality organic fertilizer for crops.

Despite the many benefits of biogas production, managing the waste (slurry) generated after biogas production remains a significant challenge in Bangladesh, as highlighted in the biogas guidelines ( ). Bangladesh has launched initiatives to develop projects that utilize appropriate technology to generate energy from waste and introducing the national 3R strategy, emphasizing the principles of 'Reduce', 'Reuse', and 'Recycle' to manage solid waste effectively, according to the United Nations Department of Economic and Social Affairs (). The Bangladeshi government has started programs targeting using the right technology for WtE conversion, considering the rising volume of waste being produced and its potential as an energy source. presents the ongoing development of WtE plants in Bangladesh.

Currently, Bangladesh's installed capacity of 26,550 MW includes 1169.73 MW () from different renewable energy sources, mainly solar energy. presents the percentage of power production using renewable energy sources in Bangladesh. With rising energy consumption, Bangladesh produced a total of 80,423 million kWh of net electricity during the fiscal year 2020–21 ().

The Power Division is directing SREDA'S efforts to grow the waste-to-electricity industry,

**Table 1: WtE plants (processing) in Bangladesh**.

| Plant Area | Technology | Capacity (MW) | Required Waste (Tons/Day) | Stakeholders | Sources |
|---|---|---|---|---|---|
| Aminbazar | Incineration | 42.5 | 3000 | Dhaka North City corporation, Bangladesh Power Development Board, and China Machinery Engineering Corp. | Daily Sun (2021) |
| Jalkuri | Incineration | 6 | 600 | Narayanganj City Corporation, Bangladesh Power Development Board, and Chinese Firm U and D. | The Financial Express (2022) |
| Matuail | Incineration | 50 | 3000 | Dhaka South City Corporation, Bangladesh Power Development Board, and Canvas Environmental Invest International Company Limited (China). | Daily sun (2021) |

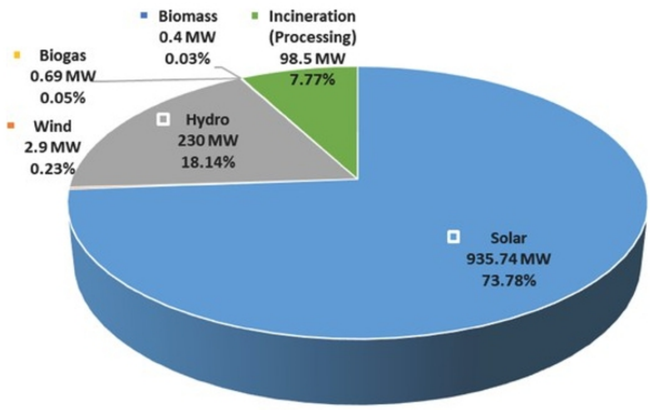


**Fig 1.** Renewable energy sources in Bangladesh (SREDA, 2023)

The Power Division is directing SREDA'S efforts to grow the waste-to-electricity industry, and city corporations and municipalities have embraced the strategy's guiding principles to improve their waste management procedures. In Bangladesh, WtE projects have been reviewed in six municipalities, including Mymensingh, Cox's Bazar, Dinajpur, Habiganj, Jashore, and Sirajganj to increase electricity production (; ). These locations can potentially use 300,504 tons of waste and generate 23,472 kWh in Modular Design 1, including indirect revenues, and 62,403 kWh in Modular Design 2 by energy reuse in a large-scale scenario. Implementing these projects can significantly contribute to national energy generation ().

In that feasibility study report, the proposal for Modular Design 1 involves combining anaerobic digestion, recycling, and composting to create a biogas plant that handles organic municipal solid waste and can incorporate other waste treatment modules. The objective is to convert waste into useful and profitable end-products, including organic fertilizer and various forms of energy such as heat, gas, and electricity. Modular Design 2 incorporates anaerobic digestion, gasification and composting, specifically including a gasification module. The design involves pretreating the mixed solid waste stream to ensure it meets the technical specifications required for a downdraft gasifier. Like the first modular design, additional modules can be added to the site to treat other types of waste, maximizing the value of the products resulting from municipal solid waste treatment.

**Related Works, Research Gap and Study Contributions**

With a combined capacity of 37 and 50 million metric tons of waste respectively, there is potential to build 248 new WtE facilities within the European Union countries and 330 throughout Europe ( ). The larger portion of the MSW in the US is sent to landfills that are fitted with gas recovery which is then used for electricity generation or supplied to homes and there are 86 WtE facilities in the US, primarily using incineration and refuse-derived fuel technologies (). A considerable increase in interest in using WtE technology in emerging economies has become important due to environmental and economic issues in recent years (). Numerous facets of the implementation of WtE projects in nations like Malaysia, Serbia, Nepal, and Bangladesh have been studied. In Malaysia for instance, investigated the environmental, monetary, and social difficulties related to energy recovery from MSW, while Serbia was used as an example in 's analysis of the challenges connected with implementing WtE in emerging and transitioning nations. presented 'Energy', 'Exergy', 'Exergoeconomic', and 'Environmental' (4E) analyses of thermal power plants for WtE applications in the Dhaka and Chattogram cities of Bangladesh. examined potential technologies for harnessing energy from waste produced in Bangladesh.

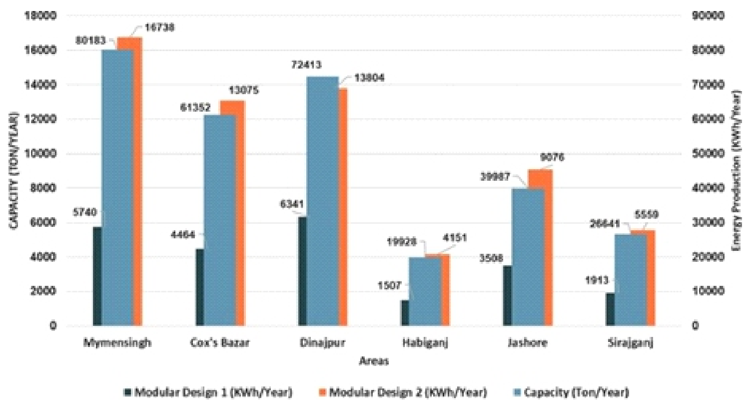


Fig 2: Possible energy production in six municipalities of Bangladesh (United Nations Development Programme 2018)

This study offers four contributions. First, this study contributes to the existing literature by recognizing and analyzing the challenges for WtE in an emerging economy. By doing this, it is expected to make it easier for emerging economies to obtain sustainable and renewable energy. Second, it prioritizes the challenges by incorporating Bayesian theory and BWM, a more current and sophisticated method. To our current understanding, this is the first endeavor that combines Bayesian BWM, the developing economy, and challenges associated with the WtE transition under a single platform. Third, the study offers solutions to these problems, which might be useful information for researchers, industry participants, and governments who are trying to promote renew- able and sustainable energy in developing nations. Finally, this frame-work's contribution to attaining some of the SDGs, including SDG 7 (Affordable and Clean Energy), SDG 12 (Responsible Consumption and Production), SDG 13 (Climate Action), SDG 15 (Life on Land), etc., are numerous.

**Key Challenges for WtE Implementation**

An extensive literature search was conducted to identify the challenges to the WtE transition from the perspective of Bangladesh as a developing country. A systematic literature search protocol was used to identify the crucial challenges. Primarily, seventeen challenges were identified from the literature search.

## Methods

This study aimed to comprehensively identify and prioritize challenges associated with Bangladesh's WtE transition. To achieve the study objective, this research employs a mixed methodical approach combining qualitative interviews with quantitative data analysis. First, after the initial identification of the challenges through an extensive literature review, systematic feedback from the expert was solicited to validate and refine the identified challenges. The combination of these methodologies allowed for integrating established knowledge and expert insights ensuring a comprehensive identification of the challenges. Numerous other studies have previously employed similar methodologies to identify relevant factors (Ali et al, 2022; Khan, Singh, et al.,2022; Siraj, Debnath, Payel, et al.,2023; Zalvand et al.,2022). Subsequently, the Bayesian BMW was utilized to analyze the finalized challenges. The selection of the Bayesian BMW was motivated by its capacity to handle subjective judgement and uncertainties effectively. This method facilitated the aggregation of expert opinions and provided a structured approach for quantifying the relative importance of each identified challenge. Such a methodological choice aligns with the intricacies of the research objectives, particularly given the multidimensional aspects of the challenges (operational, economic, organizational and technical).

## Study Context and Data Collection

As energy demand continues to increase globally, countries are turning to sustainable and renewable energy sources to address climate change and resource scarcity. WtE technology is one such renewable energy source that involves converting waste materials into useable forms of energy. WtE has the potential to address various operational, technical, managerial and economic challenges faced by emerging economies such as waste management, energy security, reducing reliance on fossil fuel and achieving the SDGs. Waste is a crucial focus of study's goal and objectives, thereby enhancing its accuracy and dependability. Purposive sampling is a purposeful, non-random approach that relies on the researcher's judgment regarding the pertinent information and their ability to identify experts capable of furnishing that information effectively (Siraj, Debnath, Kumar et al., 2023). The experts excluded no challenge. However, they added four more challenges: “Ineffectiveness in waste segregation at the source”, “Heterogeneous mixture of waste at the dump site”, “Insufficient financial backing from the government and investors” and “Complexity in the process of procurement”. Additionally, they divided all the challenges into four clusters. Following the literature review and expert validation assessment, 21 challenges were finally selected. The following stage involved contacting the same 12 experts to conduct semi-structured interviews to create the Best-to-Others and Others to Worst matrices. Semi-structured interviews are qualitative research techniques that combine pre-set open-ended questions with the freedom to probe further and cover new ground. The decision to employ semi-structured interviews with the experts was driven by the need for in-depth insights into the challenges associated with Bangladesh's waste-to-energy transition. A semi-structured interview process was chosen to allow a flexible yet systematic exploration of expert opinions, experiences and impressions. This method was considered appropriate for capturing nuanced information and facilitating a comprehensive understanding of the identified challenges ( ). Semi-structured interviews unlike unstructured ones, involve a guided interview process designed to address research objectives and focus on the conversation's natural flow rather than being strictly followed verbatim in the same order for each interview (). Moreover, the importance of ethical considerations in research is recognized in this process especially when involving expert participants. Informed consent was obtained from each expert before the commencement of the interviews. The participants were briefed on the purpose of the study, the voluntary nature of their participation and the confidentiality of their responses. The option to participate in either in-person interviews or via email was presented to respect the preferences and comfort levels of the experts. For email interviews, the questionnaire was provided through Google Forms. Participants were provided with a clear introduction outlining the study's objectives, the expected commitment and a statement ensuring the confidentiality of their responses. They were also informed that their insights would be aggregated and anonymized to maintain individual privacy.

**Bayesian Best-Worst Method Approach**

With the Bayesian BWM, a variation of the BWM, a group of elements (such as problems, requirements

and alternatives) can be prioritized according to their perceived value or relevance. In the Bayesian BWM experts are asked to identify the "best" and "worst" criteria from a given set. These selected elements are then used as reference points for making pairwise comparisons during the analysis. It incorporates uncertainty into the model and increases the precision of the results by using Bayesian statistical approaches to estimate the relative weights of the items based on expert feedback (). The method has been widely applied in various fields, including marketing, environmental management and healthcare due to numerous advantages including flexibility in handling large-scale problems and incomplete data, probabilistic outputs and computational efficiency. The following steps are adopted for applying the Bayesian BWM approach, given as follows ().

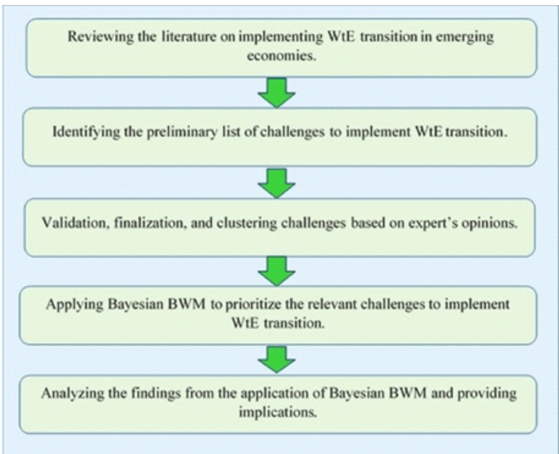


Fig 3. Flower Chart of the research methodology

This section presents the outcomes of the ranking process applied to assess the challenges associated with the WtE transition in Bangladesh. Following the established steps of the Bayesian BWM experts identify the most significant (best) and least significant (worst) challenges from the given set. Subsequently, they formulate the “Best-to-Others” and “Others-to-Worst” vectors for both the main clusters and sub-clusters. By utilizing these vectors, the Bayesian BWM is employed to compute the overall weights assigned to each challenge. In this visualization, the nodes correspond to the criteria and their average weights. These average weights are calculated as the mean of the aggregated weight distribution derived from the input of all 12 experts. This consistent approach ensures a comprehensive and representative assessment of the challenges throughout the evaluation process.

The graph's edges indicate creedal orderings, which show that with a given degree of confidence, one criterion is more important than another. Furthermore, the managerial challenges are found to be more important than the other clusters with a higher level of weight. Specifically, the managerial challenges are implemented with a 0.9 confidence level compared to economic challenges (0.81 confidence), technical challenges (0.54 confidence) and operational challenges (0.54 confidence).

The most significant managerial challenge is the 'need for well-developed planning and incentivized policy making' with a weight of 0.2472. The second most significant challenge is the 'communication gap between the researchers and the government' with a weight of 0.1523 followed by the “inadequate engagement and collaboration from stake holders" with a weight of 0.1482. Other managerial challenges such as the 'inadequate engagement and collaboration from stake holders and the 'lack of comprehensive legislation and proper implementation' also have significant weight. Overall, the ranking of managerial challenges at the local level reveals which issues must be resolved to accomplish the WtE transition in emerging economies. It also presents the local ranking for the cluster of the operational challenges for the WtE transition in developing economies. According to the results, the most significant operational challenge is the 'ineffectiveness in waste segregation at the source' with a score of 0.2398. This is followed by 'proper site selection' with a score of 0.2297 and 'difficulty in swiftly managing waste collection and transportation' with a score of 0.1880. The remaining operational challenges, including 'Heterogeneous mixture of waste at dump site' (0.1719) and 'inappropriate methods for waste recovery and disposal' (0.1706), are found to be less significant.

The most significant technical challenge with a weight of 0.2392, is the 'lower calorific value compared to conventional fuels'. The second and third most significant challenges are the 'scarcity of integrated information on waste' (0.2141) and 'atmospheric damage in the plant areas' (0.1967), respectively. The local ranking provides valuable insights into the relative importance of technical challenges, which can be used to prioritize efforts and resources toward addressing the most significant technical challenges in the WtE transition process.

## Discussion

According to the proposed Bayesian BWM framework, the main challenge in implementing WtE transition in emerging economies like Bangladesh is the "need for well-developed planning and incentivized policymaking (MC5)". identified this challenge as one of the most crucial challenges for successful conversion for WtE. This involves creating a comprehensive plan considering specific waste and energy needs and environmental and social impacts. Incentivized policymaking can support this planning process by offering financial incentives for sustainable WtE technologies, promoting job creation, reducing greenhouse gas emissions and attracting private sector investment (). Therefore, encouraging technology transfer and knowledge sharing is also important.

The "ineffectiveness in waste segregation at the source (OC1)" is the second significant issue noted in the report. evaluated the Ga West municipality's (Accra, Ghana) readiness to integrate waste segregation at source into its solid waste management in neighbourhood markets. Waste segregation is crucial for WtE technologies as different types of waste require different treatment processes. Failure to segregate waste properly can lead to contaminants, harmful emissions and the loss of valuable materials. Educating citizens about waste segregation and providing the necessary infrastructure and tools, such as separate waste bins, can effectively address this challenge ( ). The third important challenge is the "high cost associated with installation, maintenance, and infrastructure development (EC2)" of WtE plants. Due to the significant operational expenses of running these plants, developing countries still have trouble implementing this technology (, pp. 147–184). The operating costs of these plants are often prohibitively expensive for many communities in emerging economies. A lack of specialized equipment and skilled labor can further increase maintenance and repair costs. Policymakers can address this challenge by exploring alternative financing models, such as public private partnerships and community-based financing, to reduce the financial burden on the community.

Lastly, challenges such as the "shortage of proper amount of waste on time (EC4)", "Lack of comprehensive legislation and proper implementation (MC7)", "absence of operational personnel's knowledge and awareness (TC2)", "insufficient financial backing from the government and investors (MC3)", "complexity in the process of procurement (MC6)", and "inadequate training and continual support (MC1)" are considered to be the least important challenges but should not be over- looked in the transition to WtE.

## Theoretical Implication

The study broadens our understanding of WtE by investigating the connection between emerging economies, sustainable, and energy the MCDM approach. This MCDM framework, utilized in this study serves as a practical approach for assessing the main challenges associated with WtE conversion. This framework can be used by decision-makers in the energy sector to prioritize the challenges they need to address when implementing WtE projects. The study's identification of the most significant challenge to WtE conversion in emerging nations also emphasizes the necessity of considering the socio-economic and cultural aspects that may impact the success of WtE initiatives in these economic environments. The study's focus on exploring the connection between the WtE transition and emerging economies is especially relevant as these economies are experiencing rapid industrialization and urbanization increasing waste generation and energy demand. Overall, the study's theoretical contributions have implications for both academics and practitioners who are interested in the transition to sustainable and renewable energy in the energy sector. The study's findings can inform future researchers on WtE in emerging economies and guide the development of more effective policies and strategies for sustainable waste management.

**Practical Implications**

The study has significant practical implications for decision-makers, policymakers and stakeholders particularly in emerging economies where conventional energy sources are still dominant. By ranking the significant challenges and showing their hierarchical relationships, the framework can help decision-makers identify the most critical challenges to focus on when implementing WtE projects. This will enable them to develop effective strategies and policies to overcome these challenges and facilitate the transition to sustainable and renewable energy. For instance, the study's finding that the 'need for well-developed planning and incentivized policy making' is ranked first among all challenges suggests that policymakers should focus on this challenge at the early stage of the WtE transition process. This can help ensure that the necessary policies and regulations are in place to support adopting WtE technologies. Subsequently, policymakers can address other challenges identified by the framework to facilitate the WtE transition further. By promoting sustainable technological development and advancement policies, policymakers and city planners/managers can ensure a low carbon energy sector and achieve sustainability while effectively managing waste.

**Implications for Achieving SDGS**

The results of this study have important ramifications for advancing the adoption of WtE technology which will help the achievement of various United Nations' SDGs. This study's global ranking of challenges includes the 'need for well-developed planning and incentivized policy- making,' 'Ineffectiveness in waste segregation at the source,' and 'high costs for installation, maintenance, and infrastructure development'. Tackling these challenges is of utmost importance to foster sustainable waste management practices, mitigate greenhouse gas (GHG) emissions during energy generation and lower the cost of energy generation which can help in achieving SDG 7 (affordable and clean energy). The 'need for well-developed planning and incentivized policymaking' can contribute to achieving several SDGs, such as SDG 9 (Industry, innovation, and infrastructure), SDG 11 (Sustainable cities and communities) and SDG 17 (Partnership for the goals). By promoting collaboration and partnerships throughout the WtE projects, policymakers can facilitate sustainable economic, social, and environmental development Similarly, "Ineffectiveness in waste segregation at the source (OC1)" can contribute to achieving SDG 6 (Clean water and sanitation) and SDG 13 (Climate action) by promoting proper waste management practices, recycling and reuse of waste to reduce greenhouse gas emissions. By addressing the identified challenges, policymakers can create operational strategies to achieve the SDGs and contribute to creating a sustainable future for all.

**Conclusion**

Rapid population growth has created enormous challenges for waste management and the demand for green energy supplies to support clean urbanization especially in developing nations like Bangladesh. Implementing WtE conversion using municipal solid waste can be a promising solution as it addresses the energy deficit and promotes clean and sustainable waste management practices, providing benefits such as reducing greenhouse gas emissions, decreasing waste volume in landfills and responding to several SDGs.

However, implementing WtE conversion in emerging economies like Bangladesh poses several operational, technical, managerial, and economic challenges that require special attention. The methodology employed for this study encompasses a comprehensive literature review, expert consultations and the application of the Bayesian BWM framework to evaluate the challenges. The study findings indicate that the most prominent cluster of challenges is related to managerial aspects, followed by operational, technical, and economic challenges.

The study's contributions are substantial and far-reaching. This study emphasizes the imperative for a broad and transformative strategy to effectively confront the multifaceted challenges inherent in implementing WtE initiatives particularly in the context of emerging economies like Bangladesh. This proposed framework empowers energy sector decision-makers in efficiently prioritizing challenges for a successful WtE transition. The study's focus on WtE's role in meeting escalating energy demands amid growing waste generation holds paramount importance. In practical terms, the framework assists policy makers and stakeholders in emerging economies in navigating the challenges and transitioning towards a sustainable future. Policymakers are urged to proactively design and implement comprehensive, incentive driven plans that go beyond regulatory frameworks to support WtE projects. This involves considering innovative financing mechanisms, incentivized partnerships and long-term sustainability commitments. Simultaneously, industry stakeholders are encouraged to adopt a holistic approach by strategically investing in managerial training programs and research and development initiatives that foster technological innovation. Collaborative partnerships should extend beyond sectoral boundaries involving academia, civil society and international organizations to create a synergistic platform for addressing the diverse operational, technical, and economic challenges. The outcomes of this study are also expected to facilitate the achievement of various key SDGs such as affordable and clean energy (SDG 7), sustainable cities and communities (SDG 11) and climate action (SDG 13) which can help us to stride towards a sustainable future.

This study has some limitations which can be overcome in future research attempts. For instance, future research can broaden its scope by including various other economic perspectives not just restricting the context to emerging economies. Additionally, weighing expert opinions in accordance with their level of knowledge and pertinent experience might improve the precision of the findings. Additionally, this study relied on feedback from a limited number of experts due to the embryonic stage of WtE conversion in Bangladesh. Future researchers can gather more expert opinions to obtain more comprehensive and bias-free results. Another limitation of this study is that it does not show how the challenges influence each other. Future studies can explore this issue by using techniques like Interpretive Structural Modeling (ISM) or Total Interpretive Structural Modeling (TISM). They can also statistically validate those relationships by using methods like partial least squares with structural equation modeling (PLS-SEM).

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# THE DYNAMIC RELATIONSHIP BETWEEN FOREIGN DIRECT INVESTMENT AND INDUSTRIAL OUTPUT IN NIGERIA: EVIDENCE FROM TIME SERIES ANALYSIS

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**Abstract**

*This study investigates the impact of Foreign Direct Investment (FDI) on industrial output in Nigeria from 1989 to 2022, using the Vector Error Correction Model (VECM) to analyse both long-run and short-run dynamics. The Johansen co-integration test confirms a long-term relationship between FDI, industrial output (IDO), exchange rate (EXC), and gross capital formation (GFN). The long-run results show that FDI has a significant negative effect on industrial output, with a 1% increase in FDI leading to a 4.26% decrease in IDO. In the short run, a 1% increase in FDI results in a 0.37% increase in IDO. The findings suggest inefficiencies in the utilization of FDI in Nigeria's industrial sector, possibly due to mismanagement or crowding out of domestic investments. The study recommends policy reforms to improve the absorptive capacity of FDI and optimize its contributions to industrial development and economic growth.*

**Keywords:** *Dynamic Relationship, Foreign Direct Investment, Industrial Output, Evidence, Time Series Analysis*

## Introduction

Global economic integration is a common trend among nations as they engage in mutually beneficial trade and investment activities. In this context, Foreign Direct Investment (FDI) plays a pivotal role in the economic development of many countries, particularly emerging economies like Nigeria. FDI, defined as the cross-border investment through the establishment or acquisition of businesses, has been a key driver of industrial output in various economies. Investments can either be horizontal, involving similar businesses in different countries, or vertical, consisting of diverse investments across multiple sectors. In

Nigeria, FDI is seen as a critical tool to complement domestic investments, driving industrial output and boosting overall economic growth.

In many developing nations, industrial output is a core component of economic progress, and Nigeria is no exception. The industrial sector, which includes manufacturing, mining, and construction, is vital for the nation's productivity. It serves as a catalyst for employment generation and technological advancement. However, despite its importance, the industrial sector in Nigeria has faced several challenges, particularly regarding growth and competitiveness. According to researchers like Ozuzu and Isukul (2021), Nigeria's industrial sector holds the potential to drive economic prosperity if adequate investments, especially through FDI, are channelled toward its development.

Historically, Nigeria has seen fluctuating levels of FDI, particularly in the oil sector, which has attracted the majority of foreign investments due to its profitability. However, this concentration on the oil industry has stunted the growth of other sectors, particularly manufacturing and other non-oil industries. Efforts by policymakers to diversify the economy through various initiatives, such as tax holidays and the Structural Adjustment Program (SAP) of 1986, have attempted to reduce this dependence on oil and enhance industrial productivity. Yet, industrial output remains below expected levels, raising questions about the effectiveness of FDI in driving Nigeria's industrial growth.

This study explores the dynamic relationship between FDI and industrial output in Nigeria from 1989 to 2022. By focusing on this time frame, the research aims to examine the extent to which FDI has contributed to industrial growth and identify the factors impeding the sector's progress. It also seeks to address the apparent disconnect between increasing FDI inflows and Nigeria's underwhelming industrial performance, shedding light on potential policy gaps and offering recommendations for fostering a more robust industrial sector.

**Empirical Review**

Empirical studies on the relationship between Foreign Direct Investment (FDI) and industrial output in Nigeria, as well as in other regions, reveal diverse perspectives. Chandran and Krishnan (2008) found that FDI positively influences Malaysian manufacturing performance in both the short and long run, suggesting the importance of strategic foreign relations. Similarly, Patience (2011) showed that FDI significantly enhances manufacturing output growth in West Africa. Ebekozien et al. (2015) highlighted a decline in FDI into Nigeria's construction sector compared to other industries, while Orji et al. (2015) identified a negative impact of FDI on Nigeria's manufacturing sector, calling for increased investment in productive industries.

Other studies provide mixed results regarding FDI's impact on Nigeria's industrial output. Idoko and Taiga (2018) observed a positive but insignificant effect of FDI on Nigeria's manufacturing sector, whereas Okoli and Agu (2015) reported significant long-term benefits for manufacturing firms, emphasizing the need for supportive government policies. Bank-Ola et al. (2020) found that FDI positively influences Nigerian manufacturing output, and Osabohien et al. (2020) established a strong positive link between FDI and employment in Nigeria. Similarly, Oyegoke and Aras (2021) concluded that FDI significantly drives economic growth in Nigeria, reinforcing the view that FDI plays a crucial role in boosting industrial output and overall economic performance.

**Methodological Notes**

The theoretical foundation of this study is supported by the neoclassical growth model, particularly the Cobb–Douglas production function, as developed by Solow and Swan in 1956. This model emphasizes capital accumulation, labour growth, and technological progress as the primary drivers of long-run output growth (Solow, 1956; Swan, 1956). The Cobb–Douglas production function mathematically expresses the relationship between output, capital, and labour, and it is often employed to explain productivity dynamics in an open economy context (Akinola & Mbonigaba, 2019). Foreign Direct Investment (FDI) plays a vital role in facilitating technological transfers, which enhance capital accumulation and improve industrial output (Bokana & Akinola, 2017). In the model, capital deepening through FDI can boost output growth, especially when technological transfers are involved. However, the model also acknowledges diminishing returns to capital, which underscores the necessity for technological innovations to sustain long-term productivity gains (Akinola & Mbonigaba, 2019).

**Model Specification**

To achieve the broad objective of this study, the model of Keji (2023) was adapted as follows:

$$IDO = f(FDI, EXC, GFN) \qquad 1$$

So that we have the model in its transformed state as:

$$IDO_t = \beta_0 + \beta_1 FDI_t + \beta_2 EXC_t + \beta_3 GFN_t + \mu_t \qquad 2$$

Where:
IDO = Industrial Output
FDI = Foreign Direct
EXC = Exchange RateGFN= Gross Capital Formation
μ=Stochastic error term, $\beta_1$, $\beta_2$, $\beta_3$ = slope of the regression equation.

$$lnIDO_t = \beta_0 + \beta_1 lnFDI_t + \beta_2 lnEXC_t + \beta_3 lnGFN_t + \mu_t \qquad 3$$

**Estimation Technique**

The study utilised Johansen Co-integration and Vector Error Correction Model (VECM) which are subject to the outcome of the stationarity Tests.

**Results and Discussion**

This study applies the Augmented Dickey-Fuller test (ADF Unit root test) developed by Dickey and Fuller (1978) to determine the stationarity status of the variables used in the study. However, considering the study period chosen. The results of the unit root tests indicate that all variables are non-stationary at the level. These results are given in Table 1.

**Table 1: The Results of the Stationarity Test for Variables**

| | Level | | 1st Difference | | Order |
|---|---|---|---|---|---|
| | ADF | Prob. | ADF | Prob. | |
| IDO | -0.804393 | 0.9543 | -6.891113 | 0.0000 | I(1) |
| FDI | -2.797872 | 0.2088 | -5.479571 | 0.0005 | I(1) |
| EXC | -2.114296 | 0.5193 | -5.449250 | 0.0005 | I(1) |
| GFN | -0.095935 | 0.9928 | -5.549478 | 0.0004 | I(1) |

**Notes: NS = Non-stationary; S = Stationary**
**Source:** Authors Computation using Eviews-10, 2023

From the result all the variables are non-stationary at level - they all have p-values greater than the 0.05 significant level, but they became stationary after differencing once (p-values equal to or less than 5 percent significant level). This indicated that the variables were all integrated in the order I(1). Consequently, it can be confidently concluded that all variables are integrated of order one, I(1), and therefore, co-integrated. This observation allows for the implementation of co-integration tests among the variables.

**Co-integration Test:**
The Johansen co-integration test is essential for identifying long-term relationships among multiple non-stationary time series. It uses two methods: the Trace test and Max Eigenvalue test, to determine if the series are co-integrated, meaning they share a stable, long-run equilibrium. Co-integration supports the use of the Vector Error Correction Model (VECM) to account for both short- and long-term dynamics. The test's accuracy depends on selecting the optimal lag length using VAR lag order selection criteria, which ensures the reliability of the co-integration results and the robustness of further analyses.

The trace and max-Eigen statistics in Table 2 reveal one co-integrating equation at the 5% level, indicating a long-run relationship among the variables. The Johansen procedure shows co-integration by comparing the trace test and max-Eigenvalue statistics with their critical values at 0.05. When these test statistics exceed the critical values, it confirms the presence of co-integration. Therefore, the null hypothesis of no co-integration is rejected, and the alternative hypothesis is accepted, confirming co-integration in the sample data. This outcome allows for the use of the Vector Error Correction Model (VECM) to estimate the long-term and short-term dynamics in the study.

**Table 2: Johansen Co-integration Results**

$IDO = f(FDI, EXC, GFN)$

**Lags interval (in first differences): 1 to 2**

**Unrestricted Cointegration Rank Test (Trace)**

| Hypothesized No. of CE(s) | Eigenvalue | Trace Statistic | 0.05 Critical Value | Prob.** |
|---|---|---|---|---|
| None * | 0.648867 | 63.15827 | 47.85613 | 0.0010 |
| At most 1 | 0.476019 | 29.66734 | 29.79707 | 0.0517 |
| At most 2 | 0.220779 | 8.985755 | 15.49471 | 0.3667 |
| At most 3 | 0.030859 | 1.003034 | 3.841466 | 0.3166 |
| Unrestricted Cointegration Rank Test (Maximum Eigenvalue) | | | | |
| Hypothesized No. of CE(s) | Eigenvalue | Max-Eigen Statistic | 0.05 Critical Value | Prob.** |
| None * | 0.648867 | 33.49092 | 27.58434 | 0.0077 |
| At most 1 | 0.476019 | 20.68159 | 21.13162 | 0.0577 |
| At most 2 | 0.220779 | 7.982720 | 14.26460 | 0.3805 |
| At most 3 | 0.030859 | 1.003034 | 3.841466 | 0.3166 |

**Source**: Author Computation using Eviews-10, 2023

The long-run results reveal that Foreign Direct Investment (FDI) exerts a significant negative effect on industrial output (IDO) in Nigeria. The coefficient of -4.2555 suggests that a 1% increase in FDI corresponds to a 4.26% reduction in industrial output, with a statistically significant t-statistic of -5.17. This counterintuitive outcome may indicate that FDI inflows are not being efficiently utilized in the industrial sector, potentially due to structural inefficiencies or the displacement of domestic investments, as noted by Orji et al. (2015). Such findings echo concerns from previous studies, highlighting the need for improved policy frameworks to harness FDI more effectively for industrial growth (Okoli & Agu, 2015). Optimizing FDI through better governance and investment strategies could help reverse this trend.

**Table 3: Long Run Estimation**

| Cointegrating Eq: | CointEq1 |
|---|---|
| IDO(-1) | 1.000000 |
| FDI(-1) | -4.255501 |
| | (0.82289) |
| | [-5.17143] |
| LNEXC(-1) | -1.215433 |
| | (1.50506) |
| | [-0.80757] |
| GFN(-1) | -0.376317 |
| | (0.14139) |
| | [-2.66154] |
| C | -5.222398 |

**Source**: Author's Computation using eviews-10, 2023

**Table 4: Vector Error Correction Technique Result (SHORT-RUN)**

| Error Correction: | D(IDO) | D(FDI) | D(LNEXC) | D(GFN) |
|---|---|---|---|---|
| CointEq1 | -0.366145 | 0.124934 | 0.014963 | 0.252892 |
| | (0.09344) | (0.03781) | (0.00933) | (0.10301) |
| | [-3.91845] | [3.30392] | [ 1.60347] | [ 2.45512] |
| D(IDO(-1)) | 0.278436 | -0.087643 | -0.043129 | 0.117048 |
| | (0.16655) | (0.06740) | (0.01663) | (0.18359) |
| | [1.67183] | [ -1.30038] | [-2.59314] | [0.63754] |
| D(FDI(-1)) | -1.168761 | 0.101471 | -0.008029 | 0.939589 |
| | (0.45274) | (0.18322) | (0.04521) | (0.49909) |
| | [ -2.58150] | [0.55383] | [-0.17759] | [1.88261] |
| D(LXEXC(-1)) | 3.899574 | 0.804410 | 0.083909 | -2.667436 |
| | (1.83323) | (0.74187) | (0.18307) | (2.02087) |
| | [2.12717] | [ 1.08430] | [ 0.45833] | [-1.31994] |
| D(GFN(-1)) | 0.255109 | -0.067744 | 0.004904 | 0.09021 |
| | (0.15665) | (0.06339) | (0.01564) | (0.17268) |
| | [1.62858] | [-1.06866] | [ 0.31348] | [ 0.52241] |
| C | -0.577562 | -0.174921 | 0.110188 | -0.199718 |
| | (0.52211) | (0.21129) | (0.05214) | (0.57555) |
| | [ -1.10621] | [ -0.82788] | [2.11330] | [ -0.34700] |

**Source:** Author's Computation Using E-views 10, 2023

The Vector Error Correction Model (VECM) reveals the short-run dynamics between FDI and industrial output (IDO) in Nigeria. The error correction term indicates that deviations from the long-run equilibrium are adjusted at a modest rate of 3.5% annually, suggesting a gradual alignment towards equilibrium. In the short run, a 1% change in FDI is linked to a 0.37% rise in industrial output (IDO), signifying a positive but relatively small impact of FDI on industrial growth, consistent with studies by Ebekozien et al. (2015) and Okoli & Agu (2015). Conversely, a 1% change in exchange rate (LNEXC) correlates with a 0.03% decrease in IDO, reflecting the sensitivity of the industrial sector to exchange rate fluctuations. Gross capital formation (GFN) also shows a negative short-run impact, with a 1% change resulting in a 0.012% decline in IDO, possibly due to underutilization or inefficiencies in capital allocation (Orji et al., 2015).

**Diagnostic Test**

The diagnostic tests confirm the robustness of the regression model. The Breusch-Godfrey test for serial correlation indicates no evidence of serial correlation, as the probability value is above the conventional significance level. The normality test shows that most variables, including industrial output, foreign direct investment (FDI), and gross capital formation, have normally distributed residuals, except for the exchange rate. Additionally, the heteroskedasticity test reveals no presence of heteroskedasticity. Overall, these results suggest that the model is well-specified, with no major assumption violations, reinforcing the validity of the conclusions regarding FDI's impact on industrial output in Nigeria.

## Conclusion

The research highlights that between 1989 and 2022, increases in FDI contributed positively to the growth of the industrial sector. However, the findings also note potential challenges, such as the negative influence of exchange rate fluctuations and gross capital formation on the industrial sector. Despite this, the historical trend of FDI in Nigeria shows an upward trajectory, largely due to the country's focus on national security, which, while essential, has broader economic consequences.

Based on these findings, several recommendations are proposed to enhance the role of FDI in supporting industrial growth. Small and Medium Enterprises (SMEs) should focus on understanding Nigeria's regulatory environment, conducting thorough market analyses, and forming strategic partnerships with local businesses. Infrastructural development is also essential to improving operational efficiency, while risk management strategies should be developed to mitigate economic and political risks. Furthermore, businesses are advised to invest in local workforce development, adopt sustainable practices, and leverage government incentives. Embracing technological advancements and fostering community engagement are key strategies for ensuring long-term industrial growth and positive FDI outcomes in Nigeria.

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# POLITICAL ECONOMY POLICY REFORM AND POVERTY REDUCTION STRATEGY: A CRITIQUE OF NIGERIA'S NATIONAL POVERTY ERADICATION PROGRAMME (NAPEP)

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***Abstract***
*This study is an assessment of Nigeria National agency for poverty eradication programme in order to discover the extent to which these new policies' key words – accountability, ownership, participation, voicing and empowerment has been achieved. Unfortunately, this study has discovered that because of the apparent lack of absent of basic indigenous institutions, NAPEP have not achieved the desire objective. Finally, the study suggests that it is only when investors feel secure about their property rights, the rule of law prevails, private incentives are aligned with social objectives, monetary and fiscal policies are grounded in solid macroeconomic institutions, and idiosyncratic risks are appropriately mediated through social insurance, and citizens have recourse to civil liberties and political representation, poverty reduction strategies will continue to fail. Therefore, Nigeria must ensure the provision of property rights stability, reducing corruption, a transparent and accountable public sector, democratic government, rule of law and competitive (rent free) markets.*

***Keywords**: NAPEP, National Agency for poverty Eradication Programme.*

## Background to the Study

Nigeria is characterized by a paradox of growth without poverty reduction. The country is rich, but the people are poor. Nigeria is richly bestowed with abundant untapped natural and mineral resources. With these resources, Nigeria should rank among the richest countries of the world and by now poverty could have been a history in the country. The population in poverty is given as 68.7 million, as of 2004 (UNDP 2010). This is a very sad situation considering the fact that Nigeria has had over $300 billion in oil and gas revenues since independence and up to 95 percent of this great nation resources is controlled by about .01 percent of the population. Poverty in Nigeria goes beyond lack of income but also a lack of political power that would enable poor people to articulate and define their interests. In principle, democracy should correct such views on poor people, because politicians have to listen to people if they want to remain in power. Therefore, democratic governments have an advantage in comparison to other systems such as dictatorship s because they have channels which enable people to express their criticism of their leaders, a feature which produce positive effects (Aliyu, 2007) the existence of such channels creates security; because mistakes made by politicians can eventually be corrected by public action (Ojo, 2008).This security has positive effects on economic activities, which in turn benefits poor people, the most vulnerable group. Furthermore, democracy provides a means for poor people to participate in creating public policy and enables them to be heard. With such participation, the poor are more likely to feel some sense of control over a political process and its result. All this should help the poor to find their way out of poverty. One must then ask does the returned of democracy in Nigeria support these claims.

Contrary wise the level at which the profile of poverty in Nigeria has escalated to undesirable dimension after ten years of democratic rule in Nigeria as empirical studies have indicated is becoming so disheartening. Nigeria, a largest country in sub-Saharan African countries, has at least half of its population living in chronic poverty (Omotola, 2008). In the same vein, the publication of the Federal Office of Statistics (2004) indicated that poverty has been severe, pervasive, and engulfs a large proportion of the Nigerian society. Garba (2006) points that the level of poverty in Nigeria is an incontrovertible fact, which results in human deprivations, both political, social, economic, and result in hunger, ignorance, malnutrition, disease, unemployment, poor access to credit facilities, and low life expectancy as well as a general level of human hopelessness.

Isa (2008) pointed out that Nigeria is characterized by a paradox of growth without poverty reduction. The country is rich, but the people are poor. As noted by Ojo (2008), Nigeria is richly bestowed with abundant untapped natural and mineral resources. With these resources, Nigeria should rank among the richest countries of the world and by now poverty could have been a history in the country. However, Duru (2008) perspicaciously pinpointed out that Nigeria has undergone a monumental increase in the level of poverty. According to him, the poverty level stood at 74.2 percent in the year 2000. In another view Garba (as cited in Yakubu et al 2010), pointed that about 15 percent of the population was poor in 1960; the figure rose to 28 percent in 1980 and, by 1996, the incidence of poverty in Nigeria was 66 percent or 76.6 million people. He equally remarks that the UN Human Poverty Index, in 1999, placed Nigeria among the 25 poorest nations in the world. According to the UNDP (2008), the population in poverty is given as 68.7 million, as of 2004. This is a very sad situation considering the fact that Nigeria has had over $300 billion in oil and gas revenues since independence (Yakubu, et al 2010). They further noted with dismay that up to 95 percent of this great nation resources is controlled by about .01 percent of the population. It is unfortunate scenario to note that various poverty alleviation strategies have been adopted by successive governments in Nigeria, but their level of social, economic, and political impact have nothing to write home about. Studies have reached a consensus that these programs have failed to achieve the desire motive for which they were established (Adogamhe, 2010; Segun and Shewolo, 2010; Ade et al, 2009, Omotola, 2008). It was as a result of this that Nigeria was presented by the IMF and World Bank a Poverty Reduction Strategy Papers (PRSPs) with three major innovations such as participation, governance, and ownership. This is for the first time the multidimensionality of poverty, beyond its monetary income component is fully recognized among the development practitioners (UNDP, 2006). More importantly, the adoption of the concept of a participatory process to define and monitor PSRPs could reinforce democracy which returns in the country after years of military dictatorship where the poor are not being involved in the decision-making process and governance (Ade, et al 2009). With the launch of the PRSPs, now government under democratic dispensation has the chance to see poverty beyond income consumption concept which may be a break away with the past practice.

The government of Chief Olusegun Obasanjo lunched the Poverty Alleviation Programme (PAP) in 1999 as an interim antipoverty measure (Akanbi, 2007). According to Shawulu, et al (2008), PAP intended to provide jobs for 200,000 unemployed people; create a credit delivery system from which farmers would have access to credit facilities; increase the adult literacy rate from 51percent to 70percent by the year 2003; accelerate the healthcare delivery system from 40percent to 70percent by the year 2003; increase the immunization of children from 40percent to 100percent; raise the rural water supply and rural electrification from 30percent to 60percent; embark on training and settlement of at least 60percent of tertiary institution's graduates; and develop simple processes and small-scale industries, despite all these poverty, incidence remained unprecedented in Nigeria. Following the ineffectiveness of the PAP, coupled with the central question it elicits as to why the government should be interested in only alleviating poverty instead of eradicating it, the government came up with the National Poverty Eradication Programme (NAPEP) in 2001 (Omotola, 2008). This form the basis of discussion in this paper to assesses government commitment toward the realization of the concept of governance, participation and ownership within the policy frame work of NAPEP. Following the introduction this paper is going to be structure as follow, section two will examine the concept and measurement of poverty, while section three will examine the political economy paradigm of poverty reduction and section four will discuss the role of institution in poverty reduction and finally section five will conclude the paper with possible suggestion for the way forward.

## The Concept of Poverty and Measurement

Living standards comprise a set of possibilities available for a person or a household to meet its needs. The possibility to satisfy needs includes various items, including material and non-material aspects, but this approach generally represents all items needed into income/ expenditure which are important indicators used to explore poverty. The concept of poverty is defined based on these items and the approach argues that a person or a household is considered poor if its income or its consumption falls below a certain threshold, normally defined as a minimum level (Alcock, 1997:77-79; UNDP, 1997:16; World Bank, 2001a:16). The minimum level is known as the poverty line, which is calculated on the basis of obtained data from individual income or individual expenditure. The human capability, this approach rejects the income approach as a measurement of well-being and focuses on the indicators which describe the freedom to live a decent life. In this context.

Dessallien (1998:11) asserts that human capability should be measured by life expectancy at birth, malnutrition, literacy, participation and so forth. However, participation is difficult to measure partly as it is not easily to be quantified. In this regards, human capability approach endeavors to gauge poverty from outcome and most its indicators are straightforward: life expectancy at birth, nutrition and literacy rates. Sen defines human capabilities as the substantive freedom a person enjoys to lead the kind of life he or she has reason to value (1999:87). In this regards he defines "poverty as a deprivation of basic capabilities rather than merely as low income". He further argues that basic capabilities deprivation can be manifested in "premature mortality, significant undernourishment (especially of children), persistent morbidity, widespread illiteracy and other failures" (Sen, 1999:20). Freedom in the context of the development process, as argued by Sen (1999:38), includes five elements: political freedom, economic facilities, social opportunities, transparency guarantees and protective security. He further claims that these five elements form a general capability to enable a person to live more freely and they also serve to complement one another Political freedom deals with "opportunities that people have to determine who should govern and on what principles, and also include the possibility to scrutinize and criticize authorities, to have freedom of political expression and an uncensored press, to enjoy the freedom to choose between political parties, and so on" (Sen, 1999:38). Economic resources refer to personal ability to use economic resources and to have access to markets in order to generate income for consumption, production and exchange. Social opportunities link to the basic service provision for human development such as education, health and others. This is important as it not only influences a person's life, for instance, through decreased morbidity and mortality, etc., but it also affects personal ability to participate in development activities through, for example, literacy and awareness. Transparency guarantees refers to the needs for openness and trust in a community. It is important that interactions a person makes with institutions, both private and governmental in the community, should be conducted honestly and lucidly in order to develop integrated systems involving all people in participating and investing their capital in development. Sectors Protective security deals with attempts to protect certain groups in the community who are more vulnerable to economic adversity than others? These attempts can be through Safety net programs in the form of emergency services, unemployment securities or other Ways to reduce any abject destitution for the groups.

This definition fit Nigeria poverty situation since poverty in Nigeria is deprivation of basic capabilities rather than merely as low income even though authors of NAPEP have continued to approach poverty from the perspective of income or consumption index which is highly inadequate to measure capabilities deprivation such as political freedom and transparency guaranteed. In fact one the serious flaw with poverty reduction in Nigeria is lack integrating economic reform with political reform and in the word of Sen, (1999) "economic reform and political reform complements each other" but what is missing in Nigeria poverty reduction strategy is the in ability to trickle down reforms into basic institution and governance and control of corruption, that is why in the implementation of NAPEP the concept of empowerment was narrowly define without including political freedom which dealt with "opportunities that people have to determine who should govern and on what principles, and also include the possibility to scrutinize and criticize authorities, to have freedom of political expression and an uncensored press, to enjoy the freedom to choose between political parties, and so on. This point was invigorated in the work of Lipton and Maxwell, (1992), who defined empowerment as a process of increasing poor people capacity to affect the national institutions influencing their lives in the means of strengthening their participation in political circumstances. But contrary wise as noted by Booth, (2005), certain aspects of Nigeria political system tend to hinder transformational change and poverty reduction efforts.

This is because deep social forces create power relations, often referred to as a 'neopatrimonial' or 'hybrid' state, that share a number of characteristics. These include (i) a weak separation of the public and private spheres; (ii) the private appropriation of public resources (corruption); (iii) a regular use of clientelism, nepotism, and other vertical exchange relationships to maintain power; (iv) weak cross-cutting horizontal interests and relationships; (v.) the zero-sum (winner-take-all) nature of politics; (vi) a concentration of power in an individual ('presidentialism') who stands above the law; (vii) an absence of issue-based politics and political parties; and (viii) patronclient relations that are replicated at and link all levels of society. This has created a political culture where political contests and parties are centered on personalities not issues, and shifting party coalitions are the norm (Commack, et al., 2006). Decisions that affect development are often made by informal networks of influential people (though some of these may have formal positions in government) according to their highly personalized logic. Public bureaucracies are subject to tests of loyalty rather than appointed and retained on merit; a typical example is the appointment of state coordinators of NAPEP by the state governors, who used the programme resources to increase their popularity. In fact, implementation of polices that run counter to their interests are frustrated as a result. In such an environment it is difficult for the voices of the poor to be heard, or their interests to be considered fairly. According to Aliyu (2007), discriminatory practices based on religion, regionalism or tribalism help the ruling party to retain support (and win votes in preferred areas) but hurt whole groups of people and impede their climb out of poverty. Such behavior is most obvious at election times when incumbents use these 'informal' practices to win support even when they haven't created a state capable of delivering goods and services or of producing an environment where economic 'winners' can emerge. According to British Broadcasting Corporation World News programme on 10 years of democracy in Nigeria, (01 May, 2009), the level of Poverty which stood at 34 million populations in 1999 when Nigeria returned to democratic rule has risen to an alarming and astonishing rate of 74 million populations within ten years of democratic rule. The ruling People's Democratic Party used NAPEP programme for Political patronage. In the comment of Omah (2004), "the Poverty

Alleviation Programme funds were used to buy PDP officials at all levels to dispense favour to party loyalists. PDP leaders up to the state and local executives are known to have forwarded the list of party faithful, cronies and family relations for inclusion in the Poverty alleviation Programme.

This would suggest that a new strategy is needed to combat poverty in all its dimensions. This strategy seems to require a concept of poverty, which not only approach poverty from one dimension such as consumption or Income, but also approach poverty from other dimensions such as quality of institution, isolation, powerlessness, vulnerability and others. The question is how can it be done properly? It is believed that one of the steps that need to be taken in is to have a proper integration of the political reform with economic reform within the poverty reduction strategy.

**Political Economy Paradigmn of Poverty Reduction in Nigeria**

Free elections and universal suffrage, hallmarks of a true democracy, are neither free nor universal in Nigeria, and efforts to broaden the democratic process have not been helped by the politic of incumbency and hybrid state capture. Consequently, affect any effort toward poverty reduction in the country, after the return to the democratic dispensation the Nigerian federal government, implemented various poverty reduction strategy but instead of being held accountable to its citizenry and being transparent in its operations, is aggressive and corrupt (Adogamhe, 2010). Blatant election rigging and the siphoning off of public funds by both private and public officials are compounded by nepotism and tribalism. The religious/tribal war in some part of Nigeria such of that in plateau state and tribal militants in Niger Delta, armed robbers, two recent bombing in Abuja, Boko Haram crisis in Maiduguri, political assassination in some part of the country and violent juvenile cult members are persistent in their efforts to undermine Nigerian security and stability as a result of this explosive political situation, the poverty reduction strategies were frustrated, Obadan (sited in Adogamhe 2010).

Successive administrations have viewed Nigeria as a cow to be milked, not as a cow to be fed, while its elite opportune to climbed position in government view the nation's resources as a cake to be shared, with everyone clamoring for a still larger piece, Ijaiya (site in Ade et al 2009). Indiscriminate milking of the cow through endemic political corruption without at the same time nourishing the resources of its people will make any poverty reduction policy difficult to survive (Ali 2007). Immediate consumption of the whole cake by a privileged few with no regard for the many impoverished poor living at slums level will guarantee a future persistence of poverty. (Aliyu 2010).

The government of Chief Olusegun Obasanjo lunched the Poverty Alleviation Programme (PAP) in 1999 as an interim antipoverty measure (Akanbi, 2007). According to Shawulu, et al (2008), PAP intended to provide jobs for 200,000 unemployed people; create a credit delivery system from which farmers would have access to credit facilities; increase the adult literacy rate from 51percent to 70percent by the year 2003; accelerate the healthcare delivery system from 40percent to 70percent by the year 2003; increase the immunization of children from 40percent to 100percent; raise the rural water supply and rural electrification from 30percent to 60percent; embark on training and settlement of at least 60percent of tertiary institution's graduates; and develop simple processes and small-scale industries, despite all these poverty, incidence remained unprecedented in Nigeria. Following the ineffectiveness of the PAP, coupled with the central question it elicits as to why the government should be interested in only alleviating poverty instead of eradicating it, the government came up with the National Poverty Eradication Programme (NAPEP) in 2001 (Omotola, 2008). According to Adogamhe (2010), the new program has been organized to integrate four sectoral schemes, namely:

1. **Youth Empowerment Scheme (YES)**: which is focus on providing unemployed youth opportunities in skills acquisition, employment, and wealth creation. To achieve this, the scheme was further subdivided into Capacity Acquisition Programme, Mandatory Attachment Programme, and Credit Delivery Programme;
2. **Rural Infrastructure Development Scheme (RIDS)**: which deals with the provision and development of infrastructure needs in the areas of transport, energy, water, and communication, especially in rural areas;
3. **Social Welfare Service Scheme (SOWESS)**: which focus on ensuring the provision of basic Social services, including quality primary and special education, strengthening the economic power of farmers, providing primary health care, and so on;
4. **Natural Resources Development and Conservation Scheme (NRDCS)**: which seeks to promote participatory and sustainable development of agriculture, mineral, and water resources. The aim of NAPEP is to completely wipe out poverty from Nigeria by the year 2010. Three stages to the attainment of this ambitious target have been identified as: the restoration of hope in the mass of poor people in Nigeria, which involves providing basic necessities to hitherto neglected poor individual, particularly in the rural areas; the reviving of economic independence and confidence; and wealth creation (Elumilade, Asaolu, ana Adereti, 2006). Although NAPEP appears to be well crafted, the persistence of poverty in Nigeria and the various dimensions it has taken, place the activities of NAPEP in the realm of prospective analysis (Omotola, 2008).

**Youth Empowerment Scheme (YES)**

Youth Empowerment Scheme (YES) particularly aims at economic empowerment of youths including male and female, it consists of Capacity Acquisition Programmes (CAP), Mandatory Attachment Programme (MAP) and Credit Delivery Programme (CDP).

**Capacity Acquisition Programme** (CAP)

This programme is mounted to enable participants, not irrespective of their different levels of formal education, acquire skills, vocational capabilities and performance enhancing attributes on their chosen areas of engagement. These programmes include training apprenticeship, investment inducement seminars. The concept of CAP is to recruit, retrain, and redeploy the creative capacity of youths so that they can play more productive and self-fulfilling roles in the emerging economic dispensation government, take responsibility for the upkeep of participant while in training with a monthly allowance of three thousand five hundred naira (N3, 500). The same for the trainers, the participant were also settled with relevant tools and machineries to continue in their various chosen trades / vocations.

**Mandatory Attachment Programme Map**

The Mandatory Attachment Programme (MAP) is an intervention initiative under the Youth Empowerment Scheme (YES) designed to attach graduates who have completed their mandatory National Youth Service and yet to secure full time employment. Even after having undergone NAPEP's Capacity building/ training courses to organizations to provide them with the job training and expose them to skills in their fields of specialization, Federal Government through NAPEP pay the graduates the sum of ten thousand naira (10,000) only monthly.

**Farmers Empowerment Programme [2005]**

This programme is basically targeted at groups in involving women and youths. It is designed to improve the lives and wellbeing of farmers by creating opportunities for them to have access to credit, farmlands and other faming implements, NAPEP also partners with ADP (Agricultural Development Project) to provide technical knowledge to the farmers. The programme is also aimed at accelerating the attainment of the MDGs (Millennium Development Goal)

**Multi –Partner and Multi Finance (MPMF Scheme)**

Under this scheme NAPEP partners with States, Local Governments, Commercial Banks, Micro Finance Institutions and others, make available large pool of funds for lending to the poor. In this way, NAPEP is stimulating grass roots activities and mass participation in the economic development process through savings and access to funds for the poor people across the country.

**Promise KEKE NAPEP Programe (PKP)**

Promise Keeper Programme (PKP) is a NAPEP Micro credit-based intervention scheme undertaken in close collaboration with Faith based Organizations (FBOS). It is focus at assisting the poor to access a larger pool of funds for economic empowerment in line with the National Economic Empowerment and development strategy (NEEDS) of the federal Government. PKP enables poor members of religious bodies like mosques and churches to access micro credit from the pool of funds so created, to undertake productive economic activities. Under this scheme, NAPEP Provides matching funds (MF) for a certain sum set aside by FBO's for economic advancement of indigent members in their respective fields.

One of the serious flaws in the implementation of this policy was in the area of governance according to the report of the senate committee who investigated the activities of this Scheme confirms the issue of corruption and poor governances in the implementation of this programme. However, findings revealed that both terms and conditions and operational guidelines for the success implementation of the programme were mostly observed in breach Thomas, L. (2010, Novernber 1). It was discovered in some states that NAPEP officials used their influence to approve for themselves directly or through their cronies amounts which they used with no intention to repay. It is established by the committee that cases of funds approved for certain beneficiaries were diverted to different beneficiaries thus making it impossible for such funds to be recovered. According to the report there were number of instances whereby monies approved for certain projects were partially given to beneficiaries. In some cases, some state NAPEP officials released part of the approved monies to their contractors to undertake projects on behalf of beneficiaries, thereby surcharging the actual beneficiaries. According to Yakubu et al, (2010), NAPEP funds were used for politicking as the monies were given out as succor to loyal party members with no plans for recovery. It was a clear case of politicized micro-financing. According to Aliyu, (2007) there is lack of proper 'monitoring and evaluation of NAPEP:

However, from the outcome of the investigations, it is established that despite the sum of N1.850bn provided between 2006 and 2008 on monitoring and evaluation, the performances of NAPEP in the area of supervisory of the programme was very weak and ineffective. Most of the anomalies identified in various states of the federation were as a result of the nonchalant attitude of the Monitoring Unit of NAPEP at the national and state level, (Thomas, L. 2010, Novernber, 1). Some multi-purpose cooperative societies (MPCS) were given loans to undertake a particular business but used the money for other things outside earlier proposal submitted to NAPEP, thus endangering the repayment. While in many instances, incompetent, unqualified and even unregistered micro finance institutions (MFI) were engaged by NAPEP in the disbursement of funds to beneficiaries; in other cases, the micro finance institutions absconded with money. In another direction, some of the micro finance institutions became distressed with huge amount of NAPEP funds trapped (Thomas, L. 2010 Novernber 1). According to the committee report, faceless names and fake address were submitted to the committee and unverifiable addresses. These anomalies are most noticeable in the Capacity Acquisition Programme (CAP) and Mandatory Attachment Programme (MAP). The committee established that the funds meant for Village Economic Development Solution (VEDS) and COPE programmes – N5bn and N2.265bn respectively were managed to the disadvantage of NAPEP and poor Nigerians.

**Village Economic Development Solutions (VEDS)**

Village Economic Development Solutions or Village Solution is a Local Community-driven Development Programme. Adogamhe, (2010), villages are guided in their community economic development efforts that involve modernizing their villages and promoting income generating activities through village solutions. Here Villages are encouraged to see community development and poverty eradication as a joint responsibility to which every member of the village is a stakeholder and can be an active participant into a cruelly bottom-up approach to Communities development where villages organize themselves into community development groups, with the government providing technical expertise and an enabling environment., the objectives of the scheme is Economic transformation and modernization, through human and physical development to raise village income, outputs and employment levels with the aim to eliminate extreme poverty and reduce its intergenerational transfer, including Curbing rural-urban migration, develop local skills, identifying and harnessing, existing resources in the village for sustainable rural development. How it works: Community/Village identifies an economic project as an anchor activity or validates a cooperatives' application to start an anchor economic project in the community.

**Conditional Cash Transfer (CCT):** Conditional cash transfer (CCT) otherwise known as COPE "in Care of the People" According to Shawulu, et al (2008). The scheme was developed by NAPEP and targeted at individuals or households who have children of school age to enable them take care of their needs in school and also utilize base public health facilities, poor female headed households, poor aged headed households, physically challenged persons and households, headed by special groups (victims of Vesicle Vagina Festula (VVF), and People living with HIV and AIDS (PLWHAS).

Cope's Formula for Funds Disbursement
COPE = BIG + PRAI
Where BIG = Basic income Guarantee and
PRAI = Poverty Reduction Acceleration Investments.
The BIG is monthly guaranteed income given to the heads of participating households.
The amount received by each household will depend on the number of qualified children in the households:-

**No of Children Amount of Big:** One Child N 1,500, 2-3 Children N3, 000, while 4 Children and above N 5,000. The PRAI is a guaranteed investment grant given to the head of the households towards the end of the programme to start a business of his or her own or invest in a profitable business ventures that will yield sufficient income to sustain the households after the completion of twelve months (12) of receiving the basic income guarantied (BIG). The PRAI represents a compulsory saving component of the programme with a monthly savings of N7, 000. Participating heads of households will receive a total of N84, 000 as investment funds.

Another glaring weakness of the policy is the narrow conceptualization of participatory approach according to the way the programme was structured does not involves the poor in the implementation and designing in a true participatory sense. Considering the organizational structure of the programme it does not involves poor people who are the real people being affected by poverty. The structure includes stake holders such as the National Poverty Eradication Council (NAPEC) is the apex organ for policy formulation, coordination, monitoring and review of all poverty eradication activities in the country. Former President Obasanjo is the chairman of the organ while former Vice-President Atiku Abubakar is the vice chairman. The Secretary to the Government of the Federation is the secretary of the organ, while ministers whose ministries are involved in poverty eradication activities are members. The participating ministries in the scheme are those of agriculture and rural development, education, works and housing, women affairs and youth development, industry, science and technology, solid minerals development, water resources, health, power and steel, employment labour and productivity, environment and finance. The Chief Economic Adviser to the President and the National Coordinator of NAPEP are also members of the council. The second most significant organ in the structure of NAPEP is the National Assessment and Evaluation Committee. This committee, which serves as a forum for regular monitoring of the activities of NAPEP is chaired by the Vice-President, and draws membership from representatives of the Economic Policy Coordination Committee (EPCC), the National Economic Intelligence Committee.

(NEIC) the Federal Office of Statistics (FOS), the National Planning Commission, Non-Governmental Organizations, the World Bank (Nigeria), the United Nations Development Programme (Nigeria) and the European Union (Nigeria). The National Planning Commission is the secretariat of the council. The third organ is the National Coordination Committee, which is chaired by the Federal Coordinator of Programmes, is saddled with the task of executing the directives of the National Poverty Eradication Council and ensuring that activities of ministries and agencies involved in the poverty alleviation programme are coordinated. The committee also reports to the council, updates on poverty alleviation efforts in the country. Members of this committee are drawn from representatives of the ministries, parastatals and agencies participating in NAPEP who should not be below the rank of director, President of the Nigerian Guild of Editors, President of the Nigerian Labor Congress, and President of the Manufactures' Association of Nigeria. Others are the President of the Nigerian Association of Chambers of Commerce, Industry, Mines and Agriculture (NACCIMA), President of the National Association of Small-Scale Industries, President of the Nigerian Employers' Consultative Association (NECA), representatives of registered political parties and the permanent secretary of the National Poverty Eradication Programme who will serve as the secretary of the committee.

There are also state coordination committees in all the 36 states in Nigeria, including the Federal Capital Territory Abuja, the state coordinating committees have chairmen appointed by the president. Similarly, local government monitoring committees have been established in all the 774 local government areas in the country. The National Poverty Eradication Programme is not under any ministry, parastatals of agency, but these bodies are the major executors of its programmes. NAPEP in turn, also periodically executes what is called intervention projects to complement the efforts of ministries and agencies that are involved in poverty eradication initiatives. The views of the real poor at the slums of the economy where ignored, who are supposed to be the primary stakeholders in poverty reduction programs all the local government monitoring committee where not the real poor rather a class of power seeking elites who cash into the programme resources at the expense of the real poor. This omission was a serious mistake which affects the success of the policy. To understand the poor, therefore, we must engage them in mutual dialogue in which they speak for themselves and identify their needs in order to achieve self-reliance, which is the goal of any sound recovery plan. This method is called participatory technique in poverty assessment. Norton defines the participatory technique of poverty assessment as "an instrument for including poor people's views in the analysis of poverty and formulation of strategies to reduce it through public policy." It involves a variety of flexible methods that combine both visual techniques, such as maps, matrices, and diagrams, and verbal techniques, such as open-ended interviews and discussion groups. The objective of this method is to more accurately capture how individuals, groups, households, and communities experience the phenomenon of poverty in their daily lives. This paradigm is a more comprehensive approach to understanding poverty, particularly in developing countries like Nigeria. The NAPEP approach does have the potential to affect communities by involving local people in the definition and analysis, including causes, of their own poverty; by helping people shift from passively being dependent to actively Seeking ways to reduce their poverty; and by involving communities in policy formulation and delivery, as opposed to their being merely acted upon. Implementation of a viable plan for economic recovery demands that the federal government of Nigeria focus its attention on the target population and engage them in a serious dialogue. This is the sort of dialogue that most rapidly growing economy of Asia engaged. As we can see the resultant prognosis leads to appropriate treatment of their poor getting out of poverty within a few years.

**Institutions and Poverty Reduction in Nigeria**

In this paper, "institutions" have a particular definition, distinct from the common use that is indistinguishable from "organizations."Haggard (1999, 30) describes the difference as follows: Institutions refer to the formal and informal rules and enforcement mechanisms that influence the behavior of organizations and individuals in society. They include constitutions, laws and regulations, and contracts, as well as trust, informal rules and social norms. Organizations are collective social actors, usually characterized by hierarchical patterns of internal authority that pursue common interests. Organizations operating in the public sphere include government bureaucracies, legislatures, political parties, unions, interest groups, NGOs, and even firms in their political capacities.

As argued by North and Thomas (1973), that technological changes crucially depend just on the prevailing institutions through their impact on incentives and transaction costs: it is these that largely determine how fast, if at all, technological changes will actually progress. Institutions contributes to growth and development by reducing risk of doing business thus preventing diversion of resources and by preventing predatory rent seeking activities thereby diverting resource towards innovation. A society free of diversion, productive units are rewarded by the full amount of their production and individual units do not need to invest resources in avoiding diversion. In particular (Acemoglu et al. 2001, 2002, and 2005) show that quality of institutions has a more important effect on long term growth than on short term one. Jalilian et al. (2007) emphasizes the role of regulatory institutional capacity in accounting for cross-country variations in economic growth. Méon and Weill (2006), Olson et al. (1998) find evidence suggesting that institutional factors are strongly related to total factor productivity. Growth is higher in countries with better institutions and quality of governance. With regards to causal effect between institutions and economic performance, studies like Acemoglu, Johnson, and Robinson 2000; Olson et al. 1998; Rodrik et al. 2004; Kauffman et al. 2005, p. 38), indicates that a better institution leads to a higher income rather than causation being in the opposite direction. In particular Kauffman suggests that a one standard deviation improvement in governance institutions leads to a two to threefold difference in income levels in the long run. Acemogu and Johnson (2005) who attempted to distinguish between anti-rent seeking institutions and risk-reducing institutions, as they termed them as "property rights" and "contracting" institutions respectively.

Aron (2000, 105) provide a clear explanation on the absence of basic institution in an economy where he rightly observed that, when institutions are poorly defined or there are few formal institutions, economic activities are restricted to interpersonal exchanges. In such cases, repeat activities and cultural homogeneity facilitate self-enforcement. Transaction costs may be low in such an environment, but transformation costs are high because the economy operates at a very low level of specialization. Economic exchange also could operate at one remove, via social networks, but contracts are still constrained by kinship ties. It is clear, however, that firms or agents in an environment of weak institutions cannot engage in complex, long-term, and multiple-contract exchanges with effective enforcement as they do in industrial economies. A basic structure of property rights that encourages long-term contracting appears essential for the creation of capital markets and growth.

Stressing this point within the context of Nigeria, Yakubu et al (2010) has shown that National poverty Eradication policy (NAPEP) will be ineffective unless the institutions essential to the participation of all are in place. Referring mainly to land and other forms of fixed capital, he says: Most people in Nigeria cannot participate in an expanded market because they do not have access to a legal property rights system that represents their assets in a manner that makes them widely transferable and fungible, that allows them to be encumbered and permits their owners to be held accountable. So long as the assets of the majority are not properly documented and tracked by a property bureaucracy, they are invisible and sterile in the marketplace. Institutions are importantly the sets of rules that govern how a society behaves in particular areas of endeavor. As North (1990) explain them, they range from taboos, customs, and traditions in what are called traditional societies, to formal, written constitutions and laws governing economic, political, and social behavior in a more complex modern society. Institutions may be formal such as a constitution or corruption laws or they may be informal, such as voluntary codes of conduct of business or social groups. The set of rules making up an institution defines the incentives to which people will respond. According to North (1990) and Hayami and Ruttan (1971), institutions change as the transaction costs of behaving in certain ways change. Transaction costs can be seen to change as economies develop and technologies improve, and as political and social forces within a society change. So, for example, reductions in transport costs of information or goods can make certain behaviors more or less costly, and therefore lead to a new form of institution. Or increased trust between individuals and groups not only can improve social cohesion but also lower the costs of transacting contracts. North (1999) emphasized the cost of information in the development of institutions. The provision and communication of information is required to measure the attributes of a good or service in economic exchange and to define and protect the rights that are exchanged. The costlier are the exchange and its enforcement, the higher are the transaction costs, and the less likely is the institution to exist or to be effective. North (1990), Olson (1996), and De Soto (2000) have stressed the overriding importance of property rights and contract enforcement in poverty reduction strategy. Well-defined and secure property rights and impartial enforcement of contracts between parties are the basis for successful reforms. If individual rights to factors (land, labor, or capital) are ill-defined in legislation and all contracts made between parties to an economic exchange are not impartially enforced by the judicial system and therefore both property rights and contracts are free from discretionary intervention by politicians and bureaucrats then the costs of transactions and the costs of transformation in production will make economic activity infeasible or highly sub-optimal. In such circumstances, people will be reluctant to invest in fixed assets. The only businesses that will exist will be those that are "footloose," i.e., easily shifted to another location. Or private economic activity will only be undertaken with some kind of government guarantee (such as joint ventures with government, where the government will likely bear the business risks involved; or where higher profits to cover the high transaction and transformation costs are assured, such as through some form of import protection or corrupt practices areas). In such circumstances the economic activity may be largely illegal and small-scale, and bribery of government officials frequent, (Yakubu e al 2010). People will also be unwilling to invest in education, or will only do so if they have prospects of moving to another country where they will be able to earn and retain an income that justifies their investment. Adogamhe (2010) and Ade et al (2009) explained that the large and growing failure of poverty reduction policy is largely due to the absence of these basic institutions in Nigeria.

Aibokhan (2008) has dramatically highlighted the lack of an effective system of private entitlement to land and other income-earning assets in Nigeria and how this inhibits the successful implementation of policies. He estimates that the total value of land and other assets "owned" by the poor in Nigeria is very big yet, without the possibility of efficient transfer of these assets, or the ability to use these assets as collateral in order to raise capital (securitization), the assets have little income-generating power. Only where there is an effective system of property law cans the value of land or other assets be properly established; can they be easily bought and sold; or can they become collateral so that the wealth can be mobilized in investment capital. Without such property rights, and the possibility of securitization of assets, there can never be an effective capital market.

While in Nigeria the poor own assets but have no excisable property rights, there are circumstances where the poor do not have any access to potential income-earning assets such as land or even education. In these latter circumstances there has to be some form of asset redistribution or asset creation. It is not easy for a country to make the substantial changes in institutions or asset. Redistribution necessary to allow the poor to participate in economic growth and development the new institutions and land redistribution that established a basis for rapid income growth in Japan; Republic of Korea; and Taipei, China was imposed by external forces. In People's Republic of China and Viet Nam, which experienced revolutions in agricultural productivity through the Change over from collectivization to individual land rights (leasehold) and the liberalization of agricultural markets, the transformations in institutions were introduced internally but were exceptional in their breadth and speed. As North and Olson have argued, changing the status quo may be very difficult or even impossible without such dramatic intervention, because the vested interests benefiting from the existing situation usually hold political power and therefore have no interest in change. The important question therefore is how to stimulate change in such circumstances.

This brings the issue of governance in Nigeria. With this understanding in mine the federal government of Nigeria went ahead to implement NEED in 2004, as a policy package to address the way poor governance in the country. But unfortunately NEED failed deliver the desired objective, as such corruption continues to soar and poverty exacerbates the most. (Ade et al 2009). Thus, as interest in governance has grown, the scope of its definition has broadened. Early on, concerns about governance were mainly focused on the accountability and transparency of government and the political process, and the effectiveness of the government's fiscal and monetary policies. Following Burki and Perry (1998), Haggard (1999) defines governance as “the design of institutions and organizations for making and implementing collective decisions.” Broadening the focus of governance from what may be thought of as “good government” to include the establishment and operation of the basic institutions for the operation of an economy may be helpful in the sense that it places emphasis on these basic institutions. However, if the concept of governance becomes so all embracing it may be less helpful. It may be more useful to keep “good government” issues separate, while recognizing that the form of institutions will have an impact on the effectiveness of government.

Economic theorists are incorporating the role of institutions within the economic theory of growth and there is burgeoning empirical research on the relationship between institutional development and economic growth (see Aron 2000 for a review). Development agencies are beginning to focus on institutional issues. But there is not yet a full commitment to the conclusions that are implicit in De Soto's work. In other words, if basic institutions for the creation of capital and full participation of the whole society in economic activity are not in place, neither investments in infrastructure, education, health; nor economic reforms; nor public sector reforms will be effective, and will likely only increase income inequality favoring those who already have access to factor markets. Conditional cash transfer programme mandatory attachment programme, capacity acquisition programme within the NAPEP schemes will not increase incomes as much as they could if people do not have secure property rights to farm land. Education and health improvement rural electrification programme of NAPEP will not promote income growth for the poor unless there is the generation of capital with which the healthier and better-educated labor force can work. Natural resource development and conservation scheme may not be effective if there are no secure property rights to land and enforcement of contracts. Multi partner multi finance programme cannot improve the poor and the new entrepreneurial class if they cannot gain secure access to land and raise additional capital through securitization of their assets. Village economic development solution will not make impact in the form of supply responses unless there is security of property rights and contracts and capital markets are developed so that village people can raise capital and hedge their commodity and currency risks (kwanashie, 2007).

Therefore, in going about their business, particularly to ensure economic growth in which all will participate, government in Nigeria have to have a fundamental re-examination of the prospects of success for their poverty reduction policies. They have to examine whether there are appropriate institutions in place so that investments have a good chance of being successful. They also have to evaluate the possibilities for assisting the creation and redistribution of income-earning assets within the country so that the poor have the chance to participate more fully in the growth process. To carry out this evaluation government have to be able to integrate economic policy reform with political reforms so that good governance better institutions and democracy will function mutually to accelerate sustainable development and poverty reduction.

**Conclusion**

There is no much reservation that the NAPEP program could have represents well grafted and comprehensive blueprint for poverty reduction of Nigeria if the concept of youth empowerment scheme, rural electrification scheme, social well fare scheme and Natural resources and conservation scheme were properly implemented and properly diversified to incorporate other multidimensionality of poverty which the IMF model for poverty reduction provided. But as a home-grown, poverty reduction strategy; it is a propaganda exhibit for the federal government of Nigeria. As a result, the poverty reduction strategy does not follow the blue print initiative of the World Development Report of 2000/2001. The Bank's report accepted that to achieve better poverty reduction outcomes will require Empowerment in term of political participation by the poor in governance as well as decision making process but the whole programme was narrowly down to address only the income aspect of poverty which as highlighted before was too short to address the specific and more wider dimension of poverty which include political governances and political market imperfections which are basic and necessary for the attainment of poverty reduction in Nigeria. Similarly, one of the strong short coming of the programme is narrow conceptualization of participation for not involving the poor people and their representative organizations in the NAPEP structures and processes at various levels, from local to national make the whole exercise unsuccessful. If this had been followed by NAPEP' the poor could have benefit greatly in the programme but inadvertent failure to include a participatory poverty assessment method has made this so-called home-grown poverty recovery plan inadequate and inaccurate. The challenge for a poverty reduction strategy in Nigeria is on how to promote pro poor policies and provide the provision of basic institutions that allow the poor to actively participate in and significantly benefit from poverty reduction policies. The serious mistake by the authors of NAPEP document was to take the household sample surveys of poor Nigerians as provided by the study of the National Bureau of Statistics, synthesize their views of poverty, and brand it as a home-grown poverty recovery plan this give a narrow definition of participation and this has reduced the whole exercise to one-dimensional rather than multidimensional approach.

**Recommendation**

Reform efforts need to be selective and focus on the binding constraint that affects poverty reduction policies. The problem with NAPEP is that it is inherently unfalsifiable and it leads to an open-ended agenda that means that even the most ambitious part of NAPEP efforts was faulted ex post for having left something out. For NAPEP to take off properly in Nigeria there must be a moderate move in the right direction that can generate a big payoff. The main challenge to policy makers in Nigeria is how to identify the 'binding constraint' where NAPEP reform will have the largest impact on poverty. The binding constraint will be specific to Nigeria at particular points in time. Diagnostic analysis is needed first to figure out where the most significant constraints on poverty reduction policies are in a given setting. This should be the basis for a creative an imaginative policy design to target the identified constraints appropriately. The process of diagnosis and policy response needs to be institutionalized to ensure that the policy does not run dry.

However, in addition to the above points it is imperative to note that without civil order it will be very hard for poverty reduction policy to succeed in Nigeria. Where civil and social order has not been put in place it will be very difficult for policies to succeed. Efforts to implement social infrastructure or other viable investment projects where a stable environment of civil order has not been established yielded a frustrating history of stop-poverty reduction policies. Important institutions that have to be in place in Nigeria for the maintenance of civil and social order are the police and the judiciary. A well, self-policing by the community in the sense that there needs to have a degree of trust and concern for others in the maintenance of civil order. A constitution and a body of common law or custom will also be necessary to codify the rights of members of the society.

The second step is to address the issue of property rights and impartial enforcement of contracts, as well as informal institutions such as codes of conduct. For these institutions to be effective the judicial system will have to be working effectively, in particular without intervention by politicians or the bureaucracy. Bodies like anticorruption agency need to be independent and free from bureaucratic and political influences. Trust within the society is also an important ingredient concept in the effective functioning of property law and contracts. In the absences of substantial degree of trust between parties involved in contracts, the load on the judiciary in resolving contract disputes will make the system unworkable, i.e., the transaction costs will be too high for the institution to function.

The third recommendation is good governance. To have good governance, there needs for political stability, this stability will depend on the effectiveness of the electoral system and the constitution, as well as checks and balances that operate through the media and community groups, and perhaps supra-government or supra-parliamentary bodies that have power to monitor government behavior (such as administrative tribunals and an ombudsman). The main policies that will be affected by the state of governance are fiscal and monetary policy. These policies in turn will determine exchange rate policy and the inflation rate which are macroeconomic policy variants for poverty reduction. Finally, there should be sufficient provision of opportunity for all to be well educated and to access to sound health care treatment in all ramifications this will produce productive man power that will participate fully in the labor market.

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# LOCAL GOVERNMENT ADMINISTRATION AND ECONOMIC DEVELOPMENT IN CROSS RIVER STATE, NIGERIA

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***Abstract***

*The central purpose of this study was to determine the relationship that exists between Local government administration and economic development of the rural areas in Cross River State, Nigeria. To achieve this purpose, two null hypotheses were formulated to guide the study. Ex-post facto research design was adopted for the study. A sample of one thousand two hundred (1200) staff were randomly selected using simple random sampling and stratified random sampling techniques with 300 staff drawn from each of the four local government council areas selected for the study. In order to give equal opportunity to all the staff from the population of 4800. Local Government Administration and Economic Development Questionaire (LGAEDQ) was the main instrument used for data collection. The instrument was validated by experts in measurement and evaluation. The reliability estimate of the instrument was established through trial test and the reliability coefficient obtained using Cronbach alpha method which ranges from .80 to .90. Pearson product moment correlation coefficient was the statistical tool used in testing the hypotheses under study at .05 level of significance with the relative degree of freedom. The results revealed that there a significant relationship between federal monthly allocation and economic development. It also revealed that there is a significant relationship between local government internally generated revenue and economic development. Based on these findings, it was recommended that. Federal government should increase the monthly allocation to the Local government to enhance economic development. It was also recommended that for a sustainable economic development in the local government, the local* *government administration should develop strategies to enhance their internally generated revenues.*

***Keywords:*** *Local Government, Administration, Economic and Development*

## Introduction

Local government administration has become increasing important overtime, it is expected to play a vital role in economic development of the rural areas. Local government administration is significant instrument of government at the rural level, the activities of local government were heightened by the introduction of the 1976 local government reform which increases their powers, status, resources and potential in grassroots governance. Local government performs their responsibilities through representative council created by law to exercise specific powers. These powers give councils substantial control over local affair as well as financial power to initiate and direct the provision of services to enhance economic development. The history of local government administration goes back to the very beginning of colonial administration in Nigeria. Several adjustments based on several administration at the federal level have been made in the past without much success (Chukwuemeka, 2013). The current practice is that local government is merely a distant authority perpetually demanding taxes and rates but without making any positive change in the lives of the rural communities. Local government are expectred to bring employment opportunities to many unemployed citizens in the rural areas including the setting the employees recruitment criteria to enhance productivity (Ekpo, Bisong, Akpan and Eyo, 2024). It also carryout economic development programmes, these programmes give the government to initiate many development projects like repairing of bad roads, keeping clean environment, opening of markets, involving in sustainable agricultural production etc using the internally generated revenue and the federal monthly allocation given to the local government. Local government under the canopy of de-concentration can be duly conceived as a sub-unit of Federal/State run by the local government council which is authorize to make bye laws, levied and collect local taxes, employ labor, etc. only within the limits specified by the federal/state government.

Devolution on the other hand, refers to the formal conferment of powers on duly constituent local bodies charge with the responsibility of formulating and implementing developmental policies and programmes for the betterment of its constituents. Local governments are familiar with the unique social, political and economic imperatives in their respective domains. Chukwuemeka,2013 reiterated that the 1976 local government reform conceived local government as government at the local level exercised through representative council established by law to exercise specific powers within defined areas. He added that, these powers give the council substantial control over local affairs as well as the staff and also to implement projects to complement the activities of the state and federal governments in their area. It also ensures that through the devolution of functions to these council and active participation of the people and their traditional institution that local initiative and response to local needs and condition are maximized.

Revenue generation is a cornerstone of financial autonomy as it equips local governments with the resources required to meet their developmental obligations. The ability to collect taxes, levies and service charges ensures that local government can generate funds independently reducing their reliance on higher levels of government and ensuring that local governments can fund project that directly benefit rural areas. According to (Onabe, Ekpo, Akuh & Edoho, 2024), effective revenue generation empowers local government administration to finance community – specific projects and initiatives, addressing the unique needs of their constituents. Revenue allocation refers to the funds sent by the federal government to the state and local government areas tailored toward their developmental priorities. Such as infrastructure, education, healthcare, agricultural development etc (Adebayo, 2020). Scholars like (Olowu and Wunseh, 2020) argues that revenue allocation enhances responsiveness to community needs and promotes sustainable development.

Infrastructure is a critical driver of rural economic development, roads, electricity, water supply and other essential infrastructure are key factors that determine the productivity and quality of life in the rural areas. Local government with adequate finances has the ability to invest in these areas, thereby improving rural accessibility, economic activities and overall development. Local government that have the financial independence to invest in local economic development can significantly reduce poverty, improve incomes and create employment opportunities (Ekong, 2023).

**Statement of the Problem**

Local government administration plays a vital role in the economic development of the rural areas, the concern of this study is to examine the relationship between federal monthly allocation and internally generated revenue to economic development specifically in Cross River State, Nigeria. It also becomes necessary for local government council s to exists as autonomous and not subordinate to the state or federal government. Despite the monthly allocation to the local government council and the internally generated revenue, the local government areas still facing the problem of inadequate infrastructural facilities such as good roads, irrigation system, hydroelectric power stations, postal and telecommunication systems, schools, etc. the inadequacies of all these could affect economic development in the state. Poor access to economic markets can cause a major economic problem, because it is expected that after production, there should be accessible markets for this farm product to be sold.

The inadequacies in the allocation of the federal monthly allocation and internally generated revenues could be detrimental to economic growth of the rural area in Cross River State. Accordingly, it has been observed that the institution of local government in Nigeria have failed till date to enhance their economic development capacity. This is an indication that there are factors that could be responsible for this. Even when local government have access to funds, poor financial management practices corruption and stress can undermine the impact of these resources on rural economic development (Ekpo and Ndum, 2021). The lack of adequate financial expertise at the local government level, coupled with weak governance structures poses a significant challenge. Local government often lack the necessary systems to track revenue and expenditure effectively, leading to financial mismanagement (Ezeani, 2021). Many local governments lack the financial expertise, institutional capacity and human resources necessary to manage finances effectively. This hampers their ability to plan and implement large scale rural development project. Many local governments struggle to attract qualified staff in key areas such as finance, planning and project management. This may lead to inefficiency in project execution, delays in service delivery and poor monitoring and evaluation of development initiatives (Ekpo and Eyo, 2025).

The local government in Nigeria faces a series of challenges, underdevelopment has remained a ban on local government administration. Expert observed that "Local government in Nigeria are underdeveloped (Ibeto and Chinyeaka, 2012). The inability of the local government to provide service to the people at the grassroots has been linked with inadequate allocation of fund and inadequate internally generate revenue due to the corruption of the revenue officials (Otigba, 2013). Many local governments in developing countries struggle with a weak revenue base, which hamper their ability to generate sufficient funds for development. This issue is particularly evident in rural areas where economic activities may be limited. (Ekpo and Eyo, 2025).

Local government often depend heavily on found transfer from central government which may be irregular or insufficient. Rural areas typically have limited taxable resources, with agriculture being their primary economic activity. The informal nature of many rural areas makes it difficult to enforce tax collection, further reducing local government revenue generation capacity (Olowu and Wunseh, 2020). It is on this premise that the reseacher conducted this study to determine if revenue allocation to the local government and internally generated revenue by the local government have any significant relationship with economic development in Cross River State.

**Research questions**

i. To what extent does Federal monthly allocation relate with economic development in Cross River State.
ii. To what extent does local government internally generated revenue relate with economic development in Cross River State.

**Hypothesis**

i. There is no significant relationship between Federal monthly allocation and economic development
ii. There is no significant relationship between local government internally generated revenues and economic development.

**Methodology**

Ex-post factor research design was adopted for this study, because the investigator will not be able to manipulate the variables under study, the manifestation had occurred before the researcher undertook the study as such, could not inherently be manipulated by the researcher, Isangedihi, Joshua, Asim and Ekuri 2004). The study consisted of 4800 staff from 4 local government areas of Cross River State namely Calabar South, Odukpani, Ikom and Ogoja Local Government areas because of their high revenue generation based and allocation from the federal government. Simple random sampling technique involving the hat and draw method was used in selecting the four (4) local government areas. The sample size of 1200 was randomly selected. 300 from each local government area using simple random sampling technique.

The distribution of the study sample is shown in table 1 below

**Table: 1** Distribution of sample by local government

| **LGA** | **Sample** |
|---|---|
| Calabar South | 300 |
| Odukpani | 300 |
| Ikom | 300 |
| Ogoja | 300 |
| Total | 1200 |

The instrument used for data collection was Local Government Administration and Economic Development Questionnaire (LGAEDQ). The items of LGAEDQ were constructed to measure the sub-variables of the study. The study adopted the 4-points Likert scale model, with items which required the respondents to specify their level of agreement or disagreement ranging from Strongly Agree (SA), Agree (A), Disagree (D) to Strongly Disagree (SD). The instrument was divided into three sections, A, B & C. Section A elicited demographic information, section B contained 20 structure items measuring the independent variable (Local government administration), and section C, 10 structures items measuring the dependent variable (Economic development), the instrument was validated by experts in measurement and evaluation and items found unsuitable were either expunged or reconstructed. The reliability of the instrument was establishing through a trial test using Cronbach alpha co-efficient, with co-efficient ranging from 0.80 - 0.90. This figure confirmed that the instrument was reliable. One thousand and two hundred (1200) copies the questionnaire were distributed and 1080 copies returned, indicating 90% return rate. Pearson's product moment correlation co-efficient analysis was used for data analysis at .05 level of significant with a relative degree of freedom.

## Results

**$Ho_1$:** There is no significant relationship between federal monthly allocation and economic development

**Table 2:** Pearson product moment correlation coefficient analysis of the relationship between federal monthly allocation and economic development in Cross River State (N = 1080)

| Variables | $\bar{X}$ | SD | r | Sig |
|---|---|---|---|---|
| Federal monthly allocation | 14.28 | 1.26 | | |
| | | | 0.78 | .000 |
| Economic development | 12.42 | 1.22 | | |

Significant at 0.05, df = 1078, r = 0.78

The result of the analysis as presented in table 2 revealed that the calculated r-value of 0.78 at .05 level of significance with 1078 degrees of freedom is higher than the p-value of .000. with this analysis, the null hypothesis states that there is no significant relationship between federal monthly allocation and economic development fail to be accepted. It therefore implies that, federal monthly allocation has a significant relationship with economic development, which means economic development in a local government dependent on the federal monthly allocation given to the local government areas.

**$Ho_2$:** There is no significant relationship between local government internally generated revenue and economic development

**Table 3:** Pearson product moment correlation coefficient analysis of the relationship between local government internally generated revenue and economic development in Cross River State (N = 1080)

| Variables | $\bar{X}$ | SD | r | Sig |
|---|---|---|---|---|
| Local government internally generated | 13.26 | 1.42 | | |
| | | | 0.76 | .000 |
| Economic development | 12.82 | 1.32 | | |

Significant at 0.05, df = 1078, r = 0.76

The result of the analysis as presented in table 3 revealed that the calculated r-value of 0.76 at 0.05 level of significance with 1078 degrees of freedom is higher than the p-value of .000. With this analysis, the null hypothesis states that there is no significant relationship between local government internally generated revenue and economic development fail to be accepted. This implies that there is a significant relationship between local government internally generated revenue and economic development. Economic development depends on the local government internally generated revenues generated by the local government.

**Discussion of Findings**

The findings revealed that there is a significant relationship between federal monthly allocation and economic development, the findings of this study is in disagreement with the findings of a study carried out by Etim (2003) on Revenue allocation and the development of Ukanafun Local Government Area of Akwa Ibom State which revealed that there is a positive insignificant relationship between revenue allocation and the physical infrastructures of Ukanafun Local Government Area of Akwa Ibom State, he went further to state that it does not appear that this level of infrastructural development commiserates with the volume of allocations that occurs to the local government council. This is reinforced by the failure of the local government to utilize funds appropriately. However, the finding of this study agrees with the result of a study carried out by Emengini & Anere (2016) which revealed that there is a significant relationship between revenue allocated to local government areas and socio-economic development of the local government areas. It also negates the work of Amin (2018) who conducted a study on the impact of revenue allocation and rural development in Nigeria and found that revenue allocation does not contribute to rural development. Furthermore, the finding of this study agrees with that of Akujuobi and Kalu (2019) which revealed a significant effect of statutory allocation on socio-economic development of Nigeria. Jmoh (2013) found that more decentralized governance, interms of increase in the transfer of revenue from federation account to states and local government influence socio-economic development in Nigeria. The finding agrees with the finding of a study carried out by (Onabe, Ekpo, Inah & Ishaku, 2024) on assessing the challenges in ownership and funding practices of university education in Cross River State, Nigeria, that adequate financial resources and improve financial practices ensures a sustainable growth.

The second hypothesis revealed that there is a significant relationship between local government internally generated revenue and economic development, the result agrees with a study carried out by (Ekpo, Monity & Eyo, 2024) on financial incentives and teachers' productivity in public secondary schools in Calabar Education Zone, Cross River State. Also in confirmation of the result of a study by (Onabe, Ekpo, Akuh & Edoho, 2024) on revenue generation models of financing in the administration of tertiary institutions in Cross River State, Nigeria which revealed that effective financial control mechanisms can enhance revenue generation and financial sustainability.

**Conclusion**

The local government is a political authority, purposely created by the government under the law by which local communities within a definite area are organized to manage their affairs within the limit of the law under which the authority is created. One of the fundamental objectives of creating the local government system is for political participation and grassroot development. The latter is faced with several challenges because of the finances. To achieve socio-economic development, the paper advocates for adequate funding of local government in Cross River State particularly Nigeria at large. And the improvement of local government generated revenue through the introduction of improve revenue mechanism and strategies.

## Recommendations

1. Section 162(6) of the constitution of the Federal Republic of Nigeria should be amended to cancel the state/local join account which with ensure financial autonomy for the councils.
2. Granting local government financial autonomy, money is important for institutional viability. For local government to function effectively there is a need for the local government to have financial capacity. This will help in the implementation of projects for economic growth.
3. Training and capacity building of local government revenues staff, this will help in achieving institutional accountability in the local government with effective public enlightenment programmes, to help the rural dwellers.

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