THE DETERMINANTS OF BALANCE OF PAYMENT PERFORMANCE IN NIGERIA

BY

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DEPARTMENT OF ECONOMICS

FACULTY OF SOCIAL SCIENCES

UNIVERSITY OF BENIN

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BEING A PROJECT SUBMITTED TO THE DEPARTMENT OF ECONOMICS, FACULTY OF SOCIAL SCIENCES, UNIVERSITY OF BENIN IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc) DEGREE IN ECONOMICS, UNIVERSITY OF BENIN, BENIN CITY.

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CERTIFICATION

This is to certify that this project titled the Determinants of balance of payment performance in Nigeria was carried out by ODIGIE EFE KELVIN with the Matriculation Number SSC1909391, from the department of economics. It is found worthy of acceptance in the partial fulfillment of the award of Bachelor of Science (B.Sc) Degree in the Economics at the University of Benin, Benin City.

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DEDICATION

I dedicate my work to the All-Powerful God, who provided me with protection, inspiration, strength, guidance, grace, and provision during my years of academic study at the esteemed University of Benin. And my incredible mother, Mrs. Magdalene Okundolor, for her never-ending and steadfast guidance, prayers, and spiritual support. Additionally, I would want to express my gratitude to my brother Mr. Esosa Odigie and my sister Mrs. Vivian Osasere for their unwavering support and friendship.

ACKNOWLEDGEMENT

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TABLE OF CONTENTS

ABSTRACT

The study employs yearly data from 1980 to 2021 to analyze the Balance of Payments in Nigeria. Its primary objective is to explore the long-term determinants of Nigeria's Balance of Payments. The investigation employs the Autoregressive Distributed Lag Model (ARDL). The long-run ARDL regression findings indicate a negative exchange rate effect, while the short-run results show a positive value. Furthermore, the coefficients for FDI, GDP growth, interest rates, and crude oil prices are all positive and statistically significant. The research suggests a compelling case for government intervention to stimulate economic productivity. To foster economic growth, capital investment and expenditure are crucial. The government should entice foreign investment by providing incentives to potential foreign investors. Additionally, the government should enhance security and establish a sense of belonging in the Niger Delta to promote peace and ease of operations in the oil industry.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

In the realm of economics, four fundamental macroeconomic objectives exist. For Nigeria's macroeconomic policymakers, achieving a favorable balance of payments is crucial as it significantly impacts the nation's economy. Assessing a nation's BOP involves considering various factors. However, a pivotal element lies in the volume and nature of transactions engaged in by individuals, enterprises, and the government with entities in other countries within a specific timeframe (typically a year). The Balance of Payments (BOP) is employed to capture international trade in goods and services as well as shifts in ownership of national assets (Bakaert and Holdrick, 2012). The Current Account forms a prominent component within the BOP. The International Monetary Fund (IMF) advocates for the adoption of the term "Financial Account" in place of "Capital Account" by most governments.

Scrutiny of diverse economic strategies can be conducted through the lens of the current account, encompassing not only trade in goods but also its indirect effects on investments, income, debt servicing, and private remittances. The BOP holds immense significance for nations due to the prevailing interconnectedness of global

Economies. It serves as a vital tool for monitoring international trade interactions, revealing potential economic imbalances.

Furthermore, the BOP provides insights into a country's creditworthiness. Financial inflows and outflows reflect economic strength and obligations. Foreign investors rely on the BOP to gauge the attractiveness of domestic markets. Economic stability and global interdependence can be evaluated using this metric.

It is imperative to acknowledge the impact of international economic volatility on domestic economies. Policies regulating international trade and capital flows can influence the BOP. The Global Financial Crisis (GFC) of 2007-2009 vividly illustrates the salience of a country's BOP in determining its resilience during financial downturns. A precarious BOP can pave the way for financial crises, potentially triggering banking crises. Nigeria's historical Balance of Payments performance indicates that this pivotal economic indicator has not yielded positive outcomes for the nation over several decades. Throughout the 1990s, progress in this area remained negligible. Illustratively, the first half of this decade witnessed persistent pressure on the nation in 1994. Comparatively, in 1993, surpluses amounted to $13,615.9 million while deficits reached $42,623.3 million. This disparity is clearly indicated by the substantial current account deficits that far exceed capital account surpluses. Nigeria experienced negative balance of payments from 1996 to 1999. Conversely, some attribute capital account surpluses to aiding economic recovery after a prolonged contraction (CBN, 2015).

In 2000, when Nigeria adopted an export-oriented agenda, foreign investors' confidence in Nigeria's economic prospects diminished (Gbosi, 2012). Over the subsequent two years, the BOP exhibited notable improvement. However, in 2008, BOP deficits resurfaced due to the global financial crisis and a decline in oil prices in international markets. Since 2009, the BOP has remained in deficit every year, with the exception of 2015. World Bank data projects negative values of 14,627,014,405 and -16,975,923,424 for 2019 and 2020, respectively (World Bank, 2020).

1.2. Statement of problem

in Nigeria, the balance of payment problem has been a matter to almost every citizen of the country for some decades now. Different households in Nigeria are encountering various economic problems brought about by the balance of payment disequilibrium. Our industralization and technological advancement have remained very low. there has not been any substantial economic growth in the nation despites the fact that more than 60 percent of the country populations are engaged in agriculture, the country still import food items to supplement those one produced in the economy.

Unemployment rate in Nigeria economy has become the basic problem in the balance of payments disequilibrium. low rate of employment leads to low level of output and hence high cost of living. however, the central issues therefore: what roles have the administrators to play regarding the imbalance in Nigeria's balance

of payment disequilibrium facing the economy? what impact has the nature of oil exports goods on the balance of payment problem? what influence has the activities of smugglers on the balance of payment disequilibrium? Has the level of industralization and technological advancement any effect on the Nigeria 's balance of payment?

1.3 Objective of Study

The overarching goal of this research is to uncover the elements that have an impact on Nigeria's balance of payments (BOP). Nevertheless, the specific objectifs are as follows:

1. To pinpoint the diverse factors shaping Nigeria's balance of payments
2. To evaluate the effects of the balance of payments on Nigeria's economic expansion
3. The study endeavors to provide viable solutions to attain a sustainable and acceptable equilibrium in the balance of payments.

1.4. Statement of Hypothesis

In order to attain the objective of the study, the following hypothesis is tested:

1. Ho: There are no significant factors shaping Nigeria’s balance of payments

   H1: There are significant factors shaping Nigeria’s balance of payments
2. Ho: There are no significant effects of the balance of payment on Nigeria’s economic expansion

H1: There are significant effects of the balance of payment on Nigeria’s economic expansion

3. Ho: There are no significant solutions to attain a sustainable and acceptable equilibrium in the balance of payments.

   H1: There are significant solutions to attain a sustainable and acceptable equilibrium in the balance of payments.

1.5 Significance of the Study

This exploration shall offer insights into the dissemination and adaptations of international dealings, aiding policymakers and enforcers. It shall also assess the extent of Nigeria's international financial stability. Beyond these aforementioned aspects, the study shall uncover the sway of national revenue upon foreign dealings, highlighting its import in appraising Nigeria's near-term international economic outlook. This endeavor seeks to ascertain the paramount factors influencing Nigeria's BOP, proposing policy steps towards an optimal BOP.

An investigation into the determinants of balance of payment performance in Nigeria is paramount for policymakers, economic planners, investors, and the citizenry. Variables that affect balance of payment performance will be identified and scrutinized to assess their impact on Nigeria's balance of payment. The findings of the study may contribute to alleviating adverse consequences related to balance of payment challenges. Informed policies can be formulated based on

the findings to foster improvement and stability in Nigeria's external balance.The study aims to examine determinants that have not been previously explored in the Nigerian context, thereby making a significant contribution to the existing body of knowledge. The data on balance of payment in Nigeria's research is among the limited studies conducted on factors influencing balance of payment in developing economies. Consequently, it can serve as a foundation for further research of value in developing countries.

1.6. Scope and Limitation of the Study

This study endeavors to explore the factors influencing Nigeria's balance of payments from 1980 to 2022. The investigation aims to ascertain the impact of balance of payments fluctuations on Nigeria's economic development during the designated period.

Despite encountering the aforementioned challenges, the researcher persevered in conducting the study.

1.7. Structure of the Study

Consequently, this study endeavors to determine the primary factors affecting the BOP in Nigeria and propose policy measures to achieve an optimal BOP. The study is structured around these five pillars. Section 2 presents a theoretical framework and analysis of relevant empirical data. Section 3 provides a detailed account of the methodology employed. Findings and discussions are outlined in Section 4, followed by the conclusion and recommendations in Section 5.

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Review

2.1.1 Concept of the Balance of Payment

The balance of payments (also known as balance of international payments and abbreviated BOP or BoP) of a country is the difference between all money flowing into the country in a particular period of time (e.g., a quarter or a year) and the outflow of money to the rest of the world. In other words, it is economic transactions between countries during a period of time. These financial transactions are made by individuals, firms and government bodies to compare receipts and payments arising out of trade of goods and services.

The balance of payments (BOP) is the method countries use to monitor all international monetary transactions in a specific period. The BOP is usually calculated every quarter and every calendar year. All trades conducted by both the private and public sectors are accounted for in the BOP to determine how much money is going in and out of a country. If a country has received money, this is known as a credit, and if a country has paid or given money, the transaction is counted as a debit. Theoretically, the BOP should be zero, meaning that assets

(credits) and liabilities (debits) should balance, but in practice, this is rarely the case. Thus, the BOP can tell the observer if a country has a deficit or a surplus and from which part of the economy the discrepancies are stemming.

2.1.2 Components of Balance of payment

The balance of payments consists of three components: the current account, the capital account and financial account. The current account reflects a country's net income, while the capital account reflects the net change in ownership of national assets.

a) The Current Account

The current account is used to mark the inflow and outflow of goods and services into a country. Earnings on investments, both public and private, are also put into the current account. Within the current account are credits and debits on the trade of merchandise, which includes goods such as raw materials and manufactured goods that are bought, sold, or given away (possibly in the form of aid). Services refer to receipts from tourism, transportation (such as the levy that must be paid in Egypt when a ship passes through the Suez Canal), engineering, business service fees (from lawyers or management consulting, for example) and royalties from patents and copyrights. Goods and services together make up a country's The BOT is typically the biggest bulk of a country’s balance of payments, as it makes up total imports and exports. If a country has a BOT

deficit, it imports more than it exports, and if it has a BOT surplus, it exports more than it imports.

Receipts from income-generating assets such as stocks (in the form of dividends) are also recorded in the current account. The last component of the current account is unilateral transfers. These are credits that are mostly workers' remittances, which are salaries sent back into the home country of a national working abroad, as well as foreign aid that is directly received.

b) The Capital Account

The capital account is where all international capital transfers are recorded. This refers to the acquisition or disposal of nonfinancial assets (for example, a physical asset such as land) and non-produced assets, which are needed for production but have not been produced, such as a mine used for the extraction of diamonds. The capital account is broken down into the monetary flows branching from debt forgiveness, the transfer of goods, and financial assets by migrants leaving or entering a country, the transfer of ownership on fixed assets (assets such as equipment used in the production process to generate income), the transfer of funds received to the sale or acquisition of fixed assets, gift and inheritance taxes, death levies, and, finally, uninsured damage to fixed assets.

c) The Financial Account

In the financial account, international monetary flows related to investment in business, real estate, bonds, and stocks are documented. Also included are government-owned assets, such as foreign reserves, gold, special drawing rights (SDRs) held with the International Monetary Fund (IMF), private assets held abroad, and direct foreign investment. Assets owned by foreigners, private and official, are also recorded in the financial account.

2.1.3 Determinants of Balance of Payment

a) Money Supply

This refers to the entire stock of currency and other liquid instruments in an economy at a given time. It can be in cash, coins and balances held in checking and saving accounts. An increase in money supply lowers interest rates and this in turn generates more investment and increases money in the hands of citizens, thereby stimulating spending. When the level of income increases due to a rise in money supply, the interest rate is reduced while the level of imports is increased. Consequently, the BOP is worsened. On the other hand, a fall in money supply increases interest rates and investment is reduced and thus a fall in spending by the citizens of an economy. Money supply determines level of prices and inflation in the long run in a country.

b) **Exchange Rate:** This represents the monetary worth of a country's. currency in relation to another currency. This valuation is dictated by

the interplay of foreign exchange supply and demand within an economy. Demand for foreign exchange stems from the need for imported products and services, as well as capital exports. Supply of foreign exchange accessible to a nation comprises revenue generated from exporting products and services, unilateral transfer receipts from overseas, and short-term capital inflows. The exchange rate serves as a gauge of competitiveness. Normally, an equilibrium exchange rate is established under the prevailing demand and supply dynamics of foreign exchange. Additional factors influencing exchange rates encompass inflation rates, interest rates, market speculation, public debt, and balance of payment status. According to economic principles, a decline (depreciation) in an exchange rate enhances BOP balance due to an increase in net exports.

c) **Openness of the Economy:** This signifies the easing of economic restrictions. It is measured as the sum of imports and exports divided by GDP. An economy that favors imports worsens BOP, while one that favors exports improves BoP.

d) **Terms of trade**: This is the value of a country's exports relative to its imports, multiplied by 100. Terms of trade can be favorable or unfavorable. When export prices increase relative to import prices, they are favorable; when export prices fall relative to import prices, they are unfavorable.

e) **Real Interest Rate:** This rate adjusts for inflation to reflect the real cost of funds for borrowers and the real yield for lenders. Real Interest Rate = Nominal Interest Rate - Inflation (Expected or Actual). Inflation, risk, and demand for funds affect real interest rates. Higher inflation means lower real interest rates, while higher demand for capital/credit raises real interest rates, and increased supply of capital/credit lowers them. Risk level also influences real interest rates, with higher risk leading to higher real interest rates and lower risk requiring lower rates.

f) **Gross Capital Formation:** This refers to expenditures or additions to fixed assets in the economy plus net inventory level changes. Fixed assets include improvements to land, plants, machinery, equipment purchases, and the construction of roads, railways, schools, offices, hospitals, private residences, and commercial and industrial buildings. Inventories are the quantities of goods held by firms to address temporary or unexpected changes in production or sales.

g) **Political Instability:** This describes situations where a country is experiencing a political or politically related crisis. Such crises include actions aimed at or leading to disruption of the country's peace, thereby slowing down economic activities. For example, violence during elections or insurgent attacks.

2.2. Theoretical Literature

To thoroughly dissect Nigeria's position on the Balance of Payments, it is essential to scrutinize theories that elucidate the concept. The equilibrium of payments is explicated through three fundamental approaches:

2.2.1. The Elasticity Approach to the Balance of Payment

This theory (Robinson, 1937) examines the impact of exchange rate devaluation and price level on trade balance, considering the elasticity of supply and demand for foreign exchange and goods. It assumes flexible prices, with price movements influencing current account equilibrium. The exchange rate holds significance as it directly influences trade balance. The theory analyzes export and import markets, highlighting that the difference between these components determines payment imbalances. Notably, it excludes income and assumes fixed capital movements.To enhance its effectiveness, the theory utilizes devaluation. By increasing import prices, domestic devaluation discourages imports and promotes exports, rectifying current account deficits (J-Curve effect).Another condition for success under this approach is the Marshall-Lerner condition. It necessitates a sum of import and export demand elasticities exceeding one in absolute terms.

However, currency devaluation may not always be effective due to:

1. Delayed impact on trade

2. Initial worsening of deficits before improvement

2.2.2. Absorption Approach to the Balance of Payment

This Theory by Alexander (1952) examines the trade balance as a disparity between aggregate internal income and aggregate internal expenditure (absorption). The theory underscores how internal consumption of internal commodities varies relative to internal production. The theory emphasizes current account balance and trade balance, perceived as the discrepancy between what the economy produces and what it acquires for domestic utilization.

The absorption approach is rooted in the national income identity;

$Y = C + I + G + X - M$……. (1)

Where;

Y = National income.

C = private consumption of goods and services purchased at home and abroad.

G = Government expenditure.

I = Total investment by firms and government.

X = Exports of goods and services.

M = Imports of goods and services.

Then C + I + G are combined into a single term, A, which represents domestic absorption (Total domestic expenditure).

$A = C + I + G$……..……. (2).

Then Y = A + X - M……. (3).

By stating that national income equals absorption the trade balance,

X –M = Y- A…… (4).

From equation 4, it becomes evident that the trade balance represents the disparity between domestic income and the aggregate absorption. Equation (4) is the cornerstone equation for the absorption approach. Therefore, it can be inferred that if the total expenditure surpasses income, imports will outweigh exports, resulting in a deficit in the balance of payments. Conversely, if income exceeds absorption, the balance of payments will exhibit a surplus.

2.2.3 Monetary Approach to Balance of Payment (MABOP)

This investigation employs the analytical framework of the monetary approach to balance of payments (MABOP), as elucidated by Hume and Alexander (1952), Mundell (1968), and Johnson (1975). This theoretical perspective posits that balance of payments is fundamentally a monetary phenomenon, which requires analysis through the lens of adjustments in monetary reserves. Any surplus or deficit in money demand is precisely reflected in the fluctuations of balance of payments. An excess demand for money (assuming all other factors held constant) results in consumption being lower than income, leading to a balance of payments surplus. In this scenario, the nation consumes less than it produces, thus exporting the surplus to foreign markets. Conversely, an excess supply of money leads

to consumption being higher than income, resulting in a balance of payments deficit. The nation imports more than it exports. The money supply equation, money demand equation, and equilibrium can be expressed as:

$Ms = (R + D)$…….. (5)

$Md = F(Y, P, I)$……..… (6)

$Ms = Md$…….. (7)

Where,

M s = Money Supply

R = International reserve

D = Domestic credit

M d = Money demand

Y = Level of real domestic income

I = Interest rate

P = Price level.

From equations 5, 6 and 7 above, we can get changes in reserves as shown below;

$R = Ms - D$ ……..... (8)

Since Md = Ms in equation (7), then equation (6) is transformed as follow

$R = F(Y, P, I) - D$……..... (9)

Taking percentage changes in both sides of equation (9),

we get $\Delta R = \Delta[Y, P, I] - \Delta D$……... (10)

Consequently, Equation (10) serves as the reserve flow equation, indicating that:

a) Reserve fluctuations stem from the disparity between monetary demand expansion and domestic credit expansion.

b) In the presence of constant monetary demand, elevated domestic credit will induce a decline in international reserves.

The coefficient of ΔD denotes the degree to which domestic credit variations are countered by fluctuations in international reserves.

2.3 Empirical Literature

Several investigations have examined the determinants of balance of payments performance in various nations. In Nigeria, most inquiries have emphasized the determinants of the current account balance, while others have exclusively investigated the variables that influence capital and financial account components. Relatively few research have explored the complete balance of payments in Nigeria. Studies conducted in Nigeria and other nations indicate that the balance of payments is influenced by factors such as terms of trade, economic growth, exchange rates, net foreign direct investment, domestic inflation, fiscal balance, interest rates, trade liberalization, money supply, economic openness, and political stability.

Nwanosike, et al (2017) adopted multivariate regression model to ascertain the effects of the devaluation of domestic currency on the balance of payment on the nigerian economy as in line with the arguments of the Marshall-

lerner (ML) condition. to measure the effect of exchange rate devaluation on the Nigerian balance of payments, exchange rate, trade openness and foreign direct investment were used as the independent variables (exogenous) while balance of payment payment was used as the dependent variable (endogenous). The result revealed that, a unit of devaluation of exchange rate on the average will result to 2.28138 percentage decrease in the balance of payment (BOP) through the balance of trade mechanism. The study concluded that the Marshall-Lerner condition is not satisfied in the short run in the Nigerian case within the time period reviewed, 1970-2014.

Igbinoba (2017) examined the trends in Nigeria's Balance of payment position from 1970-2010 using an econometric analysis. He carried out a multiple regression analysis using the ordinary least square method for both linear and log linear form. The log-linear form gave a better result and thus was adopted to ascertain the impact of these independent (Exchange rate, inflation rate, and interest rate) on the dependent varaible (Balance of Payment). The result showed that the independent variable appeared with correct sign and thus, conforms to economic theory, but the relationship between Balance of Payment, exchange rate,and Interest rate was significant. Thus, among other recommendations, the government is advised to increase the non-oil export and diversify the productive base of the Nigerian economy so as to correct the deficits in the current account of the country's balance of payments.

Yousif and musa(2018) investigated the determinant of sudan balance of payments using annual data on the balance of payments (BOP), foreign debt(ED), Exchange Rate (EX) Inflation (INF), and the Gross Domestic Product (GDP) durin g the period of (1980-2016). The paper elaborated the problem regarding the impact of foreign debt on the balance of payments. The paper built on the fundamental assumption that the foreign debt linked to a positive relationship with the balance of payment by running VECM Approach. Results of the study indicate that there is a direct correlation between the balance of payment and foreign debt and an inverse relationship between the balance of payments and all the inflation, paper recommends that sudan should not totally depend on foreign aid in solving its economic problems which entails to transfer big amount of the national product to meet the commitments towards those foreign countries.

Oladipupo et.al (2011) conducted a study on the influence of exchange rate fluctuations on Nigeria's balance of payments, establishing a substantial impact. Their research suggests that depreciation can positively affect the balance of payments if fiscal discipline is enforced. This finding is right with Marshall-Lerner's condition in the case of Nigeria. Oladipupo and Onotaniyohuwo (2011) and Alencar and Strachman (2014) applied the OLS method to analyze this issue in Nigeria in the period from 1970 to 2008. They identified factors contributing to Nigeria's persistent balance of payments deficit: inappropriate allocation and misuse of domestic credit, fiscal indiscipline, and inadequacy of expenditure control policies. The scarcity of foreign currency was identified as a

primary cause of balance of payments issues, highlighting the importance of effective foreign currency management to minimize the adverse effects of exchange rate volatility.

Nwani (2003), he investigates the long-run determinants of balance of payment dynamics in Nigeria between 1981 and 2002, using econometric method of cointegration and error correction mechanism. He found that all the variables except balance of payment, exhibited non-stationarity. The results also indicate that balance of payment cointegrated with all the identified explanatory variables, suggesting that balance of payment fluctuations in Nigeria could be caused by the level of trade openness, external debt burden, exchange rate movement and domestic inflation. We concluded that a reduction in fiscal deficits, an increased domestic production through private investment, inflation targeting and regulated capital market integration are the panacea to the negative fluctuation in the Nigerian balance of payment.

Onyemauwa and Odii (2003) explored ways to enhance Nigeria's balance of payments through agriculture. The broad objective of this research is to analyse how the balance of payment management in the Nigeria can be improved through agricultural earnings. Data were collected from relevant publications of the Central Bank of Nigeria (CBN) and the Federal Office of Statistics (FOS). Despite the huge earnings made in crude oil sale in recent years by Nigeria, the country had a balance of payment deficit of N326,635.0 million in 1999. This was not the case, as seen in Appendix A during the 1960's and 1970's when

agricultural earnings contributed significantly to the nations balance of payment. The result of multiple regression analysis carried out indicates that interest rates, exchange rates, and foreign reserves positively correlate with balance of payments equilibrium. Their research demonstrated that higher interest rates lead to improved balance of payments, increased foreign reserves contribute to a favorable balance, and a stronger domestic currency against foreign currencies strengthens balance of payments. Conversely, imports and exports were found to have an inverse relationship with balance of payments. It is strongly recommended that those factors found to significantly affecting balance of payment in Nigeria be emphasized.

Dhliwayo (1996, 2004) used data for the period 1980-1991 to investigate the monetary approach to balance of payment in Zimbabwe. His findings indicate a one to one negative relationship between domestic credit and the flow of international reserves. The empirical results validate the MABP in Zimbabwe. This implies that money plays a significant role in the determination of deficit in the balance of payments. He conducted an econometric study on balance of payments as a monetary phenomenon from 1980 to 1991, utilizing reserves, real income, price levels, interest rates, and domestic credit. His analysis concluded that monetary factors significantly influenced balance of payments, highlighting a robust negative relationship between domestic credit and international reserve flows. He stressed that balance of payments disequilibrium could be addressed through appropriate financial planning and monetary targeting.

Tijani (2010) conducted an empirical analysis of Nigeria's balance of payments adjustment mechanisms through monetary channels from 1970-2010. With the use of the correlation analysis, the results indicated positive correlations between domestic credit, exchange rates, balance of trade, and balance of payments. Conversely, negative correlations were found between inflation, gross domestic product, and balance of payments. He concluded that monetary measures had a partial impact on balance of payments, suggesting that the government should implement expenditure-reducing monetary policies to promote a favorable balance of trade, ultimately stabilizing balance of payments.

Nyong and Obafemi (1995), they adopted a modified monetary approach to devaluation as propounded by Johnson and Frenkel (1978) and elucidated by Connolly and Taylor (1976, 1979) in a study to investigate the Impact of Exchange Rate Adjustments (Devaluation) in Nigeria's Balance of Payments from 1960-1993. Their simultaneous equations model was modified in a specific form as thus: 1. BOP/M = ø0 + ø1R/R + ø2DOM/M + ø3SAP + ø4BOP/M (-1) + µ1 2. BOP/M = ø0 + ø1BOP/M + ø21ogGDP + ø3SAP + ø4LENDR + µ2 Where, BOP = balance of payments position at time t, M = broad money supply (M2) at time t. BOP/M (-1) = one period lag of the variable. R = exchange rate at time t. SAP = dummy variable which takes value of 0 from 1962-1985, and 1 from 1986-1993. Log (GDP) = logarithm of GDP at time t. LENDR = lending rate at time t; µ1, µ2 = stochastic error terms with the-usual properties of normality and constant variance. Based on their empirical results and analysis, Nyong and Obafemi (1995)

concluded that devaluation as a policy response to redress the disequilibrium in Nigeria's external sector was an inappropriate policy response to the fundamental disequilibrium plaguing the Nigerian economy. They went further to identify various factors responsible for the inapplicability of the monetary approach to devaluation in the Nigerian context to include the structure of Nigeria's production, imports and exports coupled with instability in the macro economy, political instability and unpropitious institutional environment. However, their study indicated the crucial role of domestic credit in macro-economic adjustment.

Taiwo (1992), using Bayesian Posterior Odds Ratio, ten (10) sampled African countries from 1960 - 1990, to assess their balance of payments crisis. He concluded that about 50 per cent of the countries sampled were experiencing a fundamental disequilibrium in their current and capital accounts. Among others, his results indicated that Nigeria was not yet experiencing this severe problem but that it would take her approximately four years to attain equilibrium in the current account, if nothing else disturbed the system. He noted however, that the economic crisis facing most African countries (including Nigeria) is multi-dimensional, and must not in any way be compared with the balance of payments predicament these countries are facing. He also anticipated the imminent self-correcting propensity of the countries without severe balance of payments deficits. He recommended that countries having elementary disequilibrium in their balance of payments should employ extreme measures derivable from any of the appropriate theory of balance of payments, such as the monetary

Oloye (2012) employed Granger causality analysis to investigate the interdependence of Nigeria's fiscal deficit and current account balance over the period 1970-2010. Based on this method, a unidirectional causality from budget deficits to current account deficits was identified. Consequently, to stimulate non-oil exports and curb imports, as well as address the overvaluation of the official naira exchange rates, the study advocated for the implementation of export-oriented policies and import substitution strategies.

Jimoh (2004) also used both the Nigerian monthly and annual data between 1987 and 2001 to determine the relevance of the monetary approach to floating exchange rate regime operable in Nigeria since 1987. Fitting some of the most commonly used models for testing the relevance of monetary approach to floating rates analysis on Nigerian data, Jimoh found that those monetary models provided an adequate representation of the Nigerian data. Jimoh (2004); The message from above is that there appear to be a very significant relationship between balance of payments and domestic credit, exchange rate (devaluation) as well as income and prices but inappropriateness and misspecification of monetary policies generally lead to balance of payments deficits and reserve outflows.

Adamu and Itsede (2010), In a study of Monetary Approach of Balance of Payment in West African Monetary Zone by Adamu and Itsede (2010), using three estimation methods, GGM system, Fixed-effects OLS and Differenced GMM. Their findings indicated that a log of GDP had a positive effect on the change in net foreign assets. This implies that a country’s income plays a significant role for

its net assets. The result also showed that estimated coefficient on the change in domestic credit is found to be statistically significant at 1 percent and consistent with the monetary approach of balance of payment. A negative relationship between domestic credit and net foreign asset was established for all the three models. This implies that an increase in domestic credit worsens the balance of payment, this result consistent with theoretical explanations. The result also showed that inflation is not a strong determinant of the balance of payment position in the West African Monetary Zone. Their conclusion for both within-country and cross-country effects suggest that it is indeed applicable. The findings specifically indicated that monetary approach to balance of payment holds in the countries and the growth in domestic credit is an important determinant of their balance of payments position. For three decades, the monetary policies and current account balances of WAMZ nations have been intertwined. To assess the impact on excess cash, an examination of external accounts was conducted. Panel data estimation facilitated the estimation of both intra- and inter-country effects. The investigation uncovered a significant monetary dependence for WAMZ countries in managing their BOPs. The analysis revealed a meaningful negative relationship between domestic credit and net foreign assets. Interest rates and GDP growth also played roles in influencing WAMZ countries' balance of payments. The study highlights the need for adjustments to financial programming, monetary policy targeting, and fiscal discipline to correct BOP imbalances.

Eita (2012) a study in Namibia utilizing a cointegrated vector autoregression technique to analyze the balance of payments, considering variables such as fiscal balance, GDP, and interest rates. This study uses quarterly data and covers the period 1999 to 2009. This study uses Augmented Dickey Fuller (ADF) test statistic in order to determine whether the variables to be used in the estimation are stationary or non-stationary. This study applies vector autoregression (VAR) method. This model has advantages in the sense that time series can be modelled simultaneously. The VAR methodology corrects for autocorrelation and endogeneity parametrically using vector error correction model (VECM) specification. These variables were identified as key determinants of the balance of payments in Namibia. An increase in GDP and interest rates was found to positively affect the balance of payments. GDP policy was employed to boost exports and improve the current account, while interest rate policy aimed to maintain a favorable capital account.

Imoisi et al (2013) This implies that money plays a significant role in the determination of deficit in the balance of payments. In a related development, a study by Imoisi et al (2013) to examine the impact of monetary policy on balance of payment stability in Nigeria from 1980 to 2010. They found that money supply, exchange rate and balance of payment have positive relationship while interest rate is negatively related to balance of payment. The analysis attributes the deterioration in BOP to factors such as weak non-oil exports, stagnant agriculture, high import costs, inflationary pressures, an inefficient industrial sector, and

mismanagement of the oil boom. The study recommends enhancing non-oil exports and expanding the country's productive base to address current account deficits and improve BOP.

Umer et al. (2010) Using a monetary approach, examined Pakistan's Balance of Payments from 1980 to 2008. The researchers observed a strong correlation between Pakistan's Gross Domestic Product (GDP) and interest rates, and not just from a financial perspective. The study found a negative correlation between output expansion and BOP, measured as the BOP, and a positive correlation between output expansion and BOP measured as the BOP. The findings attribute the BOP imbalance primarily to the monetary approach. Beyond monetary policies, various policy options can be explored to address BOP imbalances.

Alexander D. (2013) in a study of Ghana BOP Monetary approach form 1980-2010 using Dicker Fuller model. He found that inflation is statically insignificant but 1% increase in domestic credit leads to 6.6% decrease in reserve, which implies that excessive generation of credit causes discrepancy in reserve. He concludes that though monetary variables are not solely responsible for the disequilibrium in balance of payment, factor such as government expenditure also play a role.

Bleckera and Ibarra (2012) In analyzing the Mexican economy, categorized exports and imports into manufactured and other goods, as well as intermediate and final products. They modified the BPCG model to accommodate

these classifications. The study observed that the BOP equilibrium growth rate closely mirrored Mexico's GDP over time. The model accounted for the fact that the BOP-equilibrium and real growth rates differed significantly between the pre- and post-liberalisation eras. Prior to liberalisation, growth rates were unsustainable due to BOP constraints. However, the easing of BOP constraints after liberalisation suggests that the observed slowdown in real GDP growth may have been influenced by other factors. Thus, it was concluded that Mexico's GDP growth was constrained by BOP equilibrium during the period 1960-1986, with an even stronger relationship when excluding specific periods (1960-1977, 1975-1976, 1982-1983, and 1985-1986) in Mexico's pre-liberalisation era. This hypothesis was supported by the findings. The study further revealed that Mexico's post-liberalisation economic growth was constrained by its balance of payments position.

Osoro (2013) utilised co-integration and error-correction approaches for a long-term assessment of Kenya's BOP dynamics over the period 1963-2012. Since the early 1960s, Kenya's current account has predominantly exhibited deficits, with brief periods of surpluses. Kenya's trade balance and exchange rate volatility also impact its BOP.

Ajayi (2014) utilized a partial adjustment approach to examine Nigeria's BOP using data from 1970 to 2010. The study emphasizes the need for BOP stability and greater global engagement for the economy. It highlights that

reduced trade openness is associated with increased budget deficits, higher exchange rates, and lower policy rates.

Obioma (1998) used data for 1960-1993 to test the validity of monetary approach to balance of payment adjustment for Nigeria under fixed and flexible exchange regimes. He found that an increase in domestic credit on money stock leads to external reserves outflow or adverse balance of payment during the fixed exchange rate regime. But in the flexible exchange rate era, an increase in domestic credit brings about exchange rate depreciation.

Braima and Korsu (2013) examined Sierra Leone's Balance of Payments from 1970 to 2010, concluding that changes in domestic credit, exchange rates, and interest rates were key influences. Domestic credit, interest rates, and prices negatively impacted the balance of payments, while exchange rates had a positive effect, albeit with a delayed impact from price increases. The study suggests the need for restrictions on domestic lending and currency depreciation to improve the country's current account balance.

Akpansung (2013) conducted a review in Nigeria, examining the relationship between the balance of payments and monetary conditions. tries were indiscriminately chosen and reviewed by him. The study stated that most of the empirical studies of monetary approach reviewed established stability of money demand functions and also showed evidence of causal relationships that exist between domestic credit and balance of payments. The growth in income and prices have positive effect on balance of payments (i.e surpluses), while growth in

the domestic credit have negative effect on balance of payments (i.e deficits) which results intoreserve outflows .This also mean that 'balance of payments is evidently a monetary phenomenon' Mundel (1968). As a result, to cleverly correct any disequilibrium in a country's reserves, adjustment of domestic credits demand and foreign trade balance's size, Akpansung (2013). According to Akpansung, a side-by-side employment of both devaluation and restrictive monetary policies by the monetary authorities was predicted especially in the absorbing and third world countries, like Nigeria, Akpansung (1998, 2013). Nevertheless, this conclusion is slightly in variance to the modified monetary approach to devaluation as propounded by Johnson and Frenkel (1978) and elaborated by Connolly and Taylor (1976, 1979) which was employed by Nyong and Obafemi (1995). The research concluded that the balance of payments is influenced by monetary factors. It demonstrated a causal connection between domestic credit and the balance of payments. Additionally, it revealed that income and price increases were linked to balance of payment surpluses, while domestic credit expansion typically resulted in balance of payment deficits and reserve depletions.

Parikh (2004) investigated the interplay between trade liberalization, growth, and balance of payments in developing nations. He linked the escalating current account deficits in African economies from 1980-1999 to trade liberalization in many African nations. His findings indicated that trade liberalization could accelerate import growth over export growth, resulting in an

unsustainable balance of payments position. He posited that trade liberalization could hinder growth by adversely affecting balance of payments.

Olisadebe (1993), Nigeria's BOP exhibited signs of instability prior to the SAP's 1986 introduction Controls were tightened in the early 1980s due to reduced oil prices and foreign exchange revenue. However, a reliance on direct restrictions proved ineffective in managing the economy. The author emphasizes austerity measures to reduce domestic consumption and investment while maintaining output. The government's expenditure-switching program aimed to divert domestic demand away from imported goods, but its success depended on the elasticity of supply and demand for trade commodities.

Efanga, Etim, and Jeremiah (2020) employed the Autoregressive Distributed Lag Model to investigate Nigeria's economic growth. The broad objective of this study was to analyze the impact of public debts on economic growth in Nigeria for the period 1981-2017. According to their findings, the Balance of Payments had a positive correlation with Nigeria's GDP during the period under study. The study recommended reducing imports of products and services produced or provided in Nigeria to strengthen the Naira's value.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

This chapter present the theoretical framework, the model employed and the estimation technique used, the sources of the data and the definitions of the variables that determines the model.

3.2 Theoretical Framework

In the realm of economics, varying perspectives exist regarding the Balance of Payments (BOP) and adjustment programs, notably from the Keynesian and Monetary schools of thought. Regarding BOP adjustment, Keynesian economics advocates adaptability and resilience. Exchange rate flexibility is emphasized as a tool for restoring BOP equilibrium in certain instances. Currency depreciation

influences trade volume and BOP due to elasticity in demand and supply for foreign currencies and goods. For successful currency depreciation, elasticity of import and export supply/demand must exceed unity. Absorption is applied to account for changes in spending, exports, and imports. This approach broadens economic analysis by considering output in relation to economic absorption capacity, factoring in gross domestic product (GDP).

$GDP = C + I + G (X – M)$

Equilibrium is maintained when domestic income remains within the country's absorption capacity. Both increased output and reduced spending can mitigate trade deficits. Currency depreciation leads to increased exports, though its impact varies based on the economy's structure and conditions. Keynesianism assumes no capital inflows into the BOP. Alternatively, a monetary approach views the BOP in terms of money supply. Monetary policy instruments can be used to adjust the BOP when imbalances occur. Disequilibrium in money markets is often cited as the cause of BOP imbalances. This approach tends to neglect current account balances.

Monetary theory allows for BOP analysis through the lens of financial asset supply and demand. It pioneers the inclusion of financial assets in the BOP. Currency depreciation can alleviate BOP concerns in this approach. While Keynesian economics primarily focuses on current account balances, monetarism places greater emphasis on capital and financial accounts. Monetarist theories

propose addressing BOP imbalances through expenditure shifts or increased output capacity.

Keynesian economics is limited in addressing external economic concerns. Therefore, our framework employs an economic analysis of the BOP rather than a solely monetary analysis.

3.2 Data Sources

The Data Annual sequential data ranging from 1981 to 2022 was utilized in the examination. The data was collected from multiple sources, namely the Statistical Bulletin of the Central Bank of Nigeria, OPEC, and World Development Index.

3.3 Model Specification

Model Specification Consequently, we employ the model proposed by (Sanni, Yakub, Andu and Sani, 2017) but utilize a distinct estimation method to analyze the variables influencing Nigeria's Balance of Payments. Balance of payments estimates are derived from GDP growth, exchange rates, interest rates, crude oil prices, remittances from workers abroad, and foreign direct investment.

BOP = f(RGDP, EXR, INTR, COP, WRM, FDI).....(3.1)

$BOP = \alpha 0 + \alpha 1\ RGDP + \alpha 2\ EXR + \alpha 3\ INTR + \alpha 4\ COP + \alpha 5\ MRM + \alpha 6\ FDI + \Sigma t$ (3.2) Where;

BOP = Balance of payments.

RGDP = Real GDP growth rate

EXHR = Exchange rate.

INTR = Interest rate.

COP = Crude oil price.

FDI = Foreign direct investments.

$\alpha 0 + \alpha 6$ = Parameters to be estimated.

3.4. Estimation Technique

The Pesaran (Pesaran, 1997) ARDL model was employed in this study (Pesaran et al., 2001). In contrast to other conventional co-integration models, Pesaran and Pesaran et al.'s bound test does not require the time series to be integrated at first order, as is the case with the two-step test technique suggested by (Engle and Granger, 1987) to the problem of uncertainty.

To phrase it differently, Pesaran and Pesaran et al.'s short-time series attributes are superior to those of more commonly used methods. Time series stationarity leads to inaccurate and invalid regression parameters due to the small sample size and non-stationary variables. According to (Kremers et al., 1992). The ARDL model can be used to establish cointegration between the dependent and independent variables, allowing us to analyze the short-term and long-term effects of a variable. Over the short and long run, these methods can be used to estimate more accurate parameters of independent variables.

To test the hypothesis of no co-integration relationship between the dependent variable and the variables explained in equation, we compute the F statistic through the (Wald test) for the null hypothesis: b1= b2 = 0.

Versus the alternative hypothesis of a co-integration relationship between the levels of the model variables, where the alternative hypothesis states: $b1 \neq b2 \neq 0$.

If the estimated F statistic value exceeds the upper limit of the critical value, we reject the null hypothesis (i.e., there is a co-integration relationship between the two variables), and here we use the (ARDL) method to estimate the Error Correction Model (ECM). If the calculated F statistic value is less than the lower limit, the null hypothesis is accepted.

By setting the target equation (3.2) into the Autoregressive Distributed Log Model (ARDL) form, we obtain the following equation.

$\Delta BOP = \alpha 0 + \alpha 1\ BOPt\text{-}1 + \alpha 2\ RGDPt\text{-}1 + \alpha 3\ EXHRt\text{-}1 + \alpha 4\ INTt\text{-}1 + + \alpha 5$

$COPt\text{-}1 + \alpha 6\ WRMt\text{-}1 + \alpha 7\ FDIt\text{-}1 + \sum \Delta BOP + \sum \Delta RGDPt\text{-}1 + \sum \Delta EXHRt\text{-}1 +$

$\sum \Delta INTRt\text{-}1$

$BOP = \sum \Delta COPt\text{-}1 + \sum \Delta FDI + \psi ECM(-1) + Et$

Where Δ: initial difference operator: $\alpha 0$, $\alpha 1$, $\alpha 2$, $\alpha 3$, $\alpha 4$, $\alpha 5$, $\alpha 6$ are constant long-term dynamics of the models; $\beta 1$, $\delta 1$, $\gamma 1$, $\Pi 1$, $\Theta 1$ and $\psi 1$ are momentary impacts; Ut: mistake term (Gaussian white noise with zero mean).

3.5 Definition of Variables

- **Balance of Payment (BoP):** the balance of payments (also known as balance of international payments and abbreviated BOP or BoP) of a

country is the difference between all money flowing into the country in a particular period of time (e.g., a quarter or a year) and the outflow of money to the rest of the world. In other words, it is economic transactions between countries during a period of time. These financial transactions are made by individuals, firms and government bodies to compare receipts and payments arising out of trade of goods and services.

- **Real GDP Growth Rate**: The real economic growth rate, or real GDP growth rate, measures economic growth , as expressed by gross domestic product (GDP), from one period to another, adjusted for inflation or deflation. In other words, it reveals changes in the value of all goods and services produced by an economy the economic output of a country while accounting for price fluctuations.
- **Exchange Rate:** Currency exchange rates are typically established by the level of economic output, interest rates prevailing in the market, a country's gross domestic product, and its unemployment statistics. These rates, often referred to as market exchange rates, are set in the global financial marketplace, where institutions such as banks engage in ongoing currency trading based on these variables. Exchange rate fluctuations can occur frequently, with either gradual shifts or more substantial increments.
- **Interest Rate:** Interest rate constitutes a payment levied upon borrowers for leveraging a particular asset. Assets subject to borrowing may encompass monetary sums, consumer products, transportation modes, and

real estate. Consequently, an interest rate can be construed as the "price of finance elevated interest rates elevate the expense of securing an identical sum of money

- **Crude Oil Price (COP):** One of the world's most crucial commodities, crude oil, exerts a considerable impact on the broader economic landscape through its pricing fluctuations. Escalating oil prices translate into increased fuel costs for vehicles, elevated shipping expenses, and enhanced production costs for manufacturers. The primary force driving crude oil prices lies in the fundamental interplay of supply and demand. When supply exceeds demand or demand wanes, prices tend to decline. Conversely, growing demand coupled with supply constraints exert upward pressure on prices. Perceptions of supply and demand variations can originate from geopolitical developments or natural calamities affecting oil-producing nations.
- **Foreign Direct Investment (FDI):** The term foreign direct investment (FDI) alludes to an equity interest in a foreign corporation or initiative undertaken by an investor, business, or government from a separate nation. FDI is commonly employed to characterize a corporate decision to acquire a sizable share in a foreign enterprise or to acquire full ownership in order to broaden operations into a new market. Typically, the term is not utilized to characterize solely a stock investment in a foreign firm. FDI is a critical

part of international economic incorporation because it creates robust and enduring connections between economies.

CHAPTER FOUR

TREND ANALYSIS AND PRESENTATION OF RESULTS

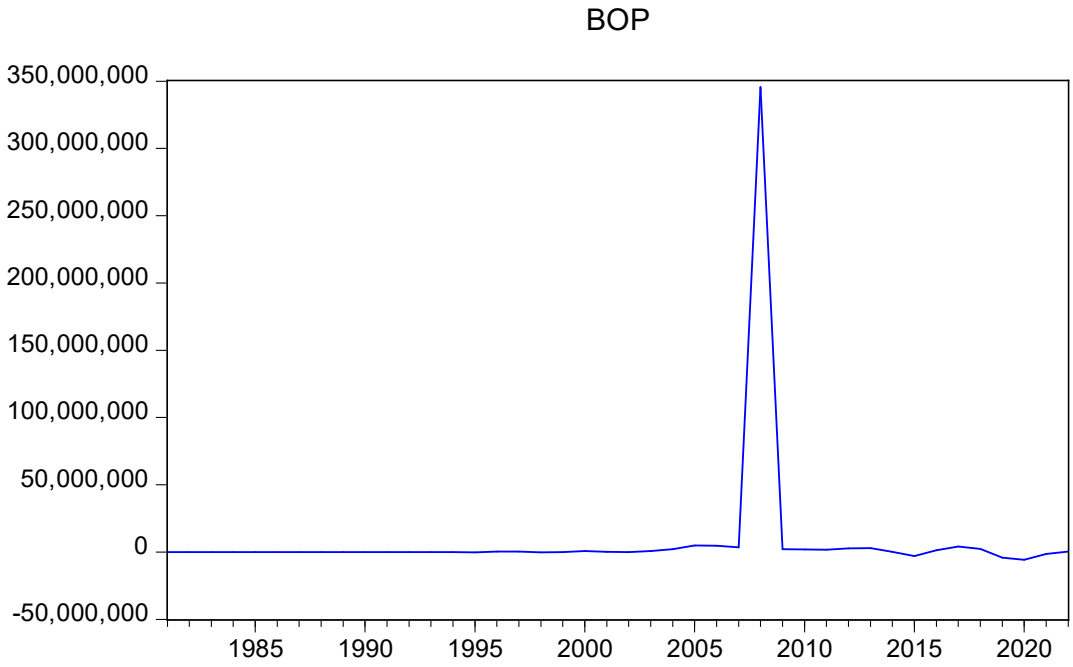
4.0 Introduction

This chapter is dedicated to presentation and analysis of the different findings of the study. However, it is divided into two sections. The first segment is devoted to trend analysis of the different variables employed in the study, while the second section focuses on the empirical findings of the study.

4.1 Trend Analysis

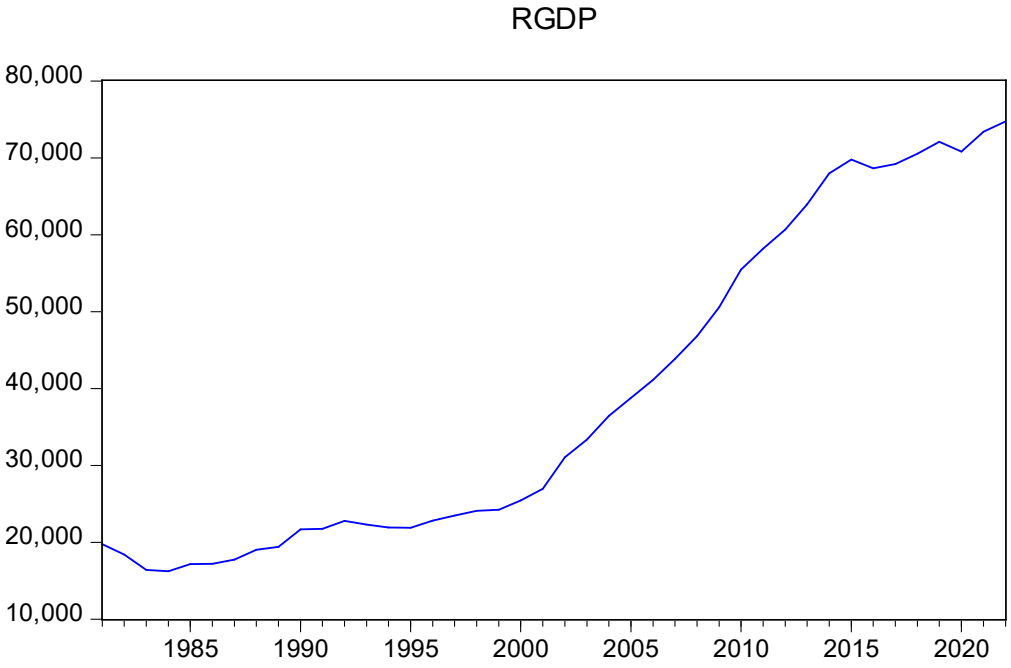
Trend analysis is the practice of collecting information on variables and attempting to discern a pattern of behaviour of the information collected. In statistical analysis, trend analysis often refer to techniques for extracting an underlying pattern of behaviour in a time series data which would otherwise be partly or nearly completely hidden by noise. A simple description of these techniques is trend estimation, which can be undertaken within a formal regression analysis. Consequently, the long erm behaviour of the variables used in this study are presented in various graph as embodied in figure 4.1 and further discussed below;

Figure 4.1: Graphical representation of BOP



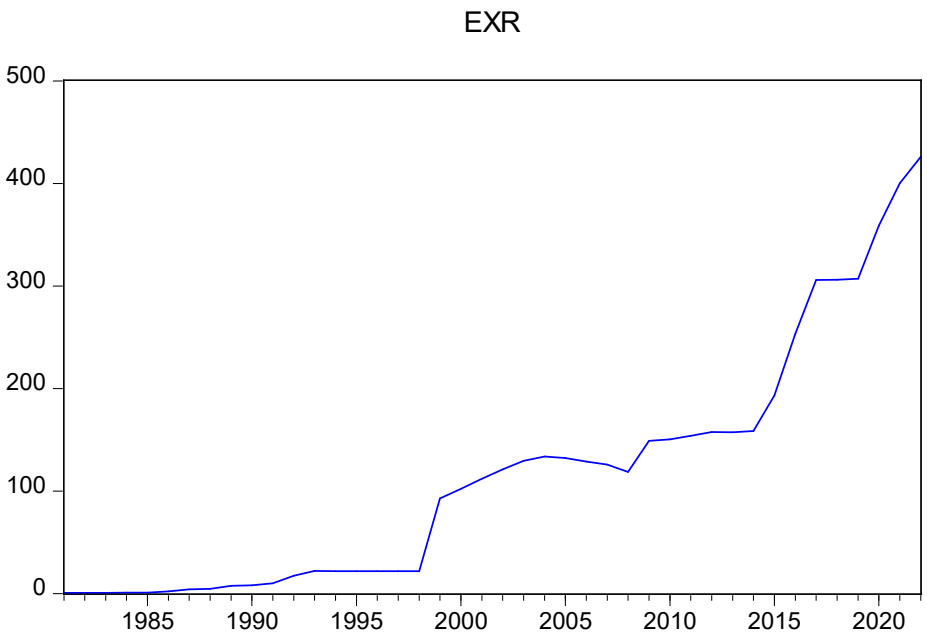
Source: From author's computation using E-views 10

Figure 4.2: Graphical representation of RGDP



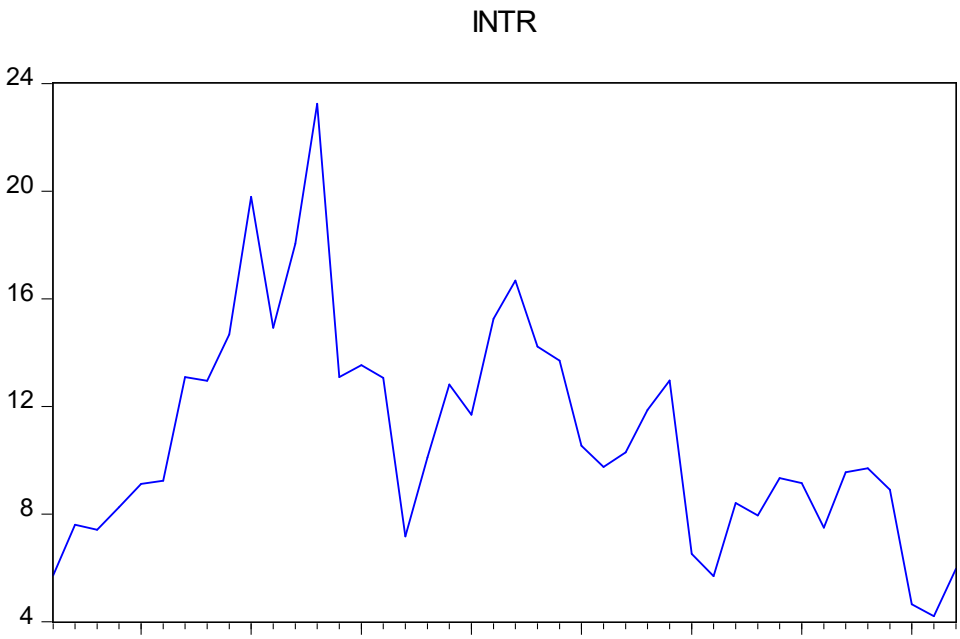
Source: From author's computation using E-views 10

Figure 4.3: Graphical representation of EXR



Source: From author's computation using E-views 10Figure 4.4: Graphical

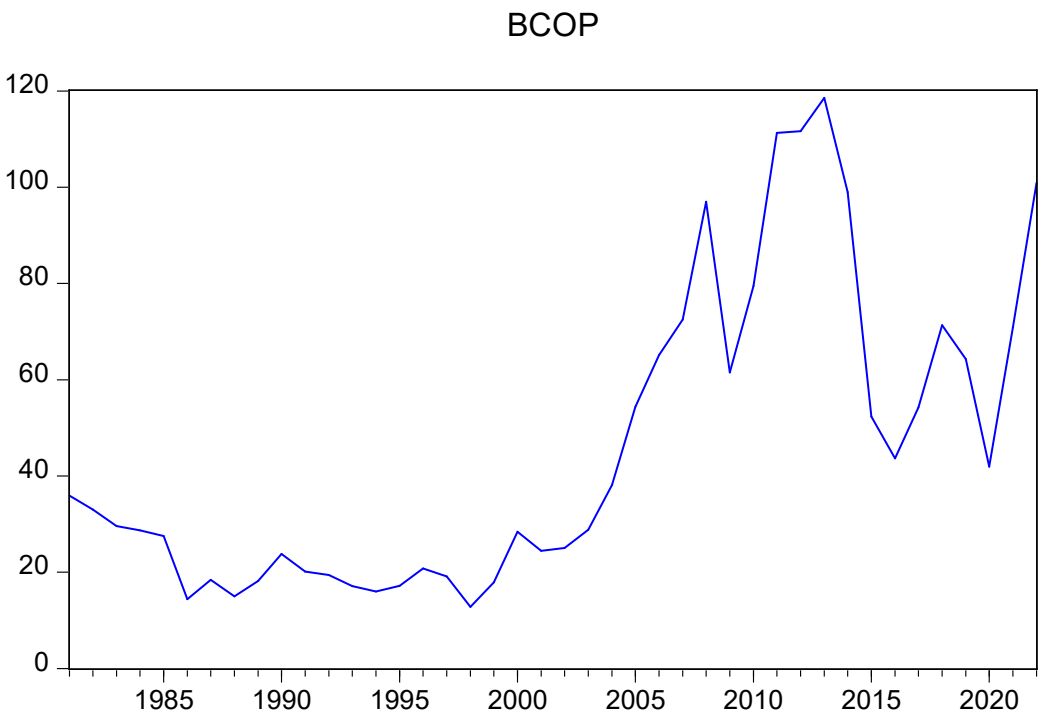
representation of



INTR

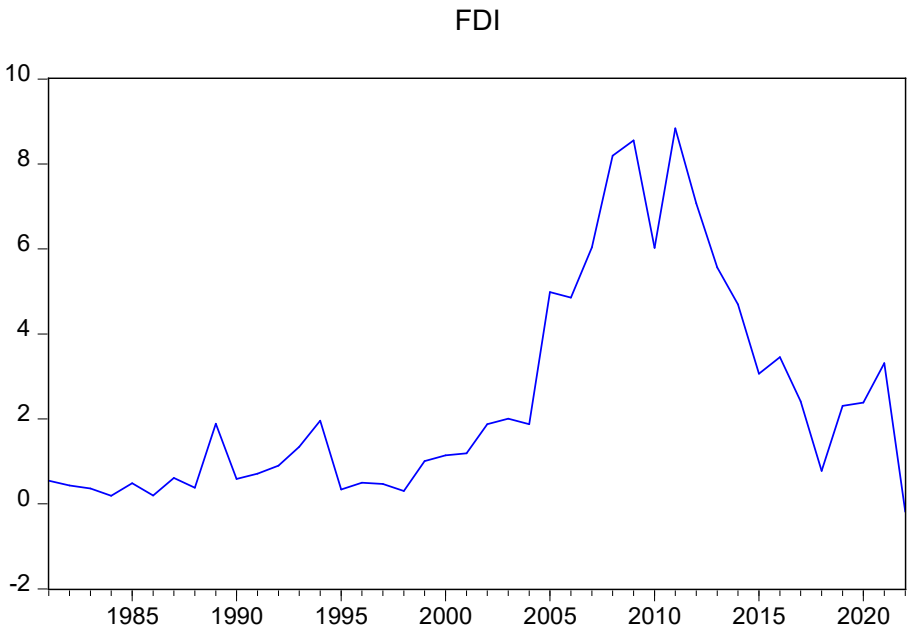
Source: From author's computation using E-views 10

Figure 4.5: Graphical representation of BCOP



Source: From author's computation using E-views 10

Figure 4.6: Graphical representation of FDI



Source: From author's computation using E-views 10

4.2 Empirical Analysis

This section presents and discusses the empirical findings of the study. First, the descriptive statistics of the variables in the study, unemployment rate, corruption perception index, inflation, foreign direct investment and population growth are presented, and then the explanatory variables are also presented and discussed. Furthermore, the results from the models estimated are presented and evaluated accordingly inwhich the policy implications are also revealed.

4.2.1 Descriptive Statistics

Table 4.1: Representation of the descriptive statistics

	BOP	RGDP	EXR	INTR	BCOP	FDI
Mean	8754622	38996.98	115.7412	10.91064	45.70833	2.466978
Median	45533.71	28999.8	115.255	9.93	31.3	1.609715
Maximum	3.46E+08	74752.42	425.98	23.24167	118.56	8.841062
Minimum	-5725301	16211.49	0.61	4.206848	12.8	-0.18679
Std. Dev.	53276171	21073.79	119.1408	4.107326	31.39446	2.539894
Skewness	6.233097	0.524425	1.02135	0.76846	0.92643	1.16951

			7	3	1	7
Kurtosis	39.91214	1.632519	3.221275	3.598325	2.636496	3.233344
Jarque-Bera	2656.346	5.197657	7.387874	4.760233	6.239162	9.669684
Probability	0	0.074361	0.024874	0.09254	0.044176	0.007948
Sum	3.68E+08	1637873	4861.13	458.2469	1919.75	103.6131
Sum Sq. Dev.	1.16E+17	1.82E+10	581975.7	691.6751	40410.1	264.4934
Observations	42	42	42	42	42	42

Source: From author's computation using E-views 10

The summary statistics of all the variables used in this exercise are presented and discussed in Table 4.1 above. Specifically, the mean, median, minimum and maximum values, standard deviation, the skewness and kurtosis, Jarque-Bera values and their corresponding probability values are also stated. The mean of each of the variables indicates the average of the respective variables used in the study. The standard deviation further reveals how dispersed the variable is from the average; thus, it shows the explosiveness of the variables. Furthermore, the skewness and kurtosis values indicate asymmetry and flatness of the distribution while the normality test was carried out using the Jarque-Bera statistics. The Jarque-Bera statistics and the respective probability values are further stated.

From Table 4.1, the result indicates that both the mean and median values for all the variables are in line with random time series trend. Also, BOP, RGDP, EXR, INTR, BCOP and FDI are all positively skewed. The variables have positive moderate kurtosis, suggestive of the presence of leptokurtic behaviour in BOP, EXR, INTR and FDI. while RGDP and BCOP have platykurtic behaviour. The Jarque-Bera statistics showed that the residuals of RGDP and INTR are not normally distributed. While, those of BOP and EXR, BCOP, FDI are normally distributed.

4.2.2: The Regression Result

$BOP_t = \beta_0 + \beta_1 RGDP_t + \beta_2 EXR_t + \beta_3 INT_t + \beta_4 BCOP_t + \beta_5 FDI_t + U_t$

BOP = -8213163. - 1787.184RGDP +161857.0EXR + 1695501.INTR +

665657.6BCOP +7703328.FDI

(-0.199) (-1.282) (0.81)

(0.725) (1.195) (1.486)

$R^2 = 0.21$

Adjusted $R^2 = 0.10$

D.W = 2.27

F- Statistics = 1.867 [0.124]

Source: From author's computation using Microfit 4.1

4.2.3 Discussion of OLS result

From the regression results above, there exists a positive relationship between EXR, INTR, BCOP and FDI with BOP in Nigeria. Only RGDP has a negative relationship with BOP. Also, the t-values of the variables shows that all the variables are not statistically significant at the 5% significant level.

The coefficient of determination is 0.21, which indicates that 21% of the variations in BOP is explained by the explanatory variables in the model, while 79% is captured by the stochastic error term. The F-value is 1.867 and it shows that all the explanatory variables are simultaneously insignificant in addressing causality issues in BOP in Nigeria.

However, it is important to investigate the extent of fulfillment of the assumptions of the OLS estimation technique. It is further worthy to know that, if these assumptions are fully satisfied, then the overall result will be greatly considered. The regression result revealed a Durbin Watson statistic of 2.27, which indicates presence of autocorrelation among the error terms using the rule of thumb with bench mark of $1.8 \leq DW \leq 2.2$. This impairs the consistency and minimum variance properties of the OLS estimator and also make the F-statistic unreliable.

4.2.4 Unit Root Test

Table 4.3: Augumented Dickey Fuller Test for the used Variables

Variables	ADF Test	Critical	Remark	Order of

	Statistics	Value (5%)		Integration
BOP	-6.27506	-3.523623	Stationary	I(0)
D(RGDP)	-3.43026	-2.936942	Stationary	I(1)
D(EXR)	-4.21166	-2.936942	Stationary	I(1)
D(INTR)	-3.84198	-2.943427	Stationary	I(1)
D(BCOP)	-5.17344	-2.936942	Stationary	I(1)
D(FDI)	-7.14347	-2.936942	Stationary	I(1)

Source: From author's computation using Microfit 4.1

The table4.3 above shows the results of the ADF unit root. it was noticed that BOP was stationary at level which suggest that the variables is highly influence. While RGDP, EXR, INT, BCOP and FDI are found to be stationary at first difference. Hence, having tested for the stationarity of the variables, we proceed to test for the long run relationships of the variables which give us the co-integration result in table 4.5 below.

4.2.5 Co- Integration Test

The co-integration test is used to establish the existence of long-run equilibrium relationship between the variables in the model, as this is important for the purpose of policy making. This study will be using the Engle-Granger cointegration test by creating residuals based on the static regression and then test if it stationarity or not at levels. The table 4.5 below shows that the residuals is

stationary at level, which reveals that there is a long relationship among BOP, RGDP, EXR, INTR, BCOP and FDI.

Table 4.4: Unit Root Tests for residuals

Unit root tests for residuals

****

Based on OLS regression of BOP on:

C RGDP EXR INTR BCOP

FDI

42 observations used for estimation from 1981 to 2022

****

Test Statistic	LL	AIC	SBC	HQC
DF -6.8818	-708.0420	-709.0420	-709.8475	-709.3260
ADF(1) -4.7234	-707.9803	-709.9803	-711.5912	-710.5482
ADF(2) -4.5632	-707.0388	-710.0388	-712.4551	-710.8906
ADF(3) -4.3276	-706.2966	-710.2966	-713.5185	-711.4325
ADF(4) -4.2001	-705.4788	-710.4788	-714.5061	-711.8986

****

95% critical value for the Dickey-Fuller statistic = -5.1757

LL = Maximized log-likelihood	AIC = Akaike Information Criterion
SBC = Schwarz Bayesian Criterion	HQC = Hannan-Quinn Criterion

Source: From author's computation using Microfit 4.1

The table 4.5 above shows that the residual is stationary at levels at the 5% significant level, which establishes that there is a long run relationship among BOP, RGDP, EXR, INTR, BCOP and FDI. The ARDL F-Bound test with F-value of 6.739 also confirmed that there is a co integrating relationship among BOP and the explanatory variables, as shown in table 4.6 below.

Table 4.6: ARDL Bound Test Result

F-Bounds Test			Null Hypothesis: No levels relationship	
Test Statistic	Value	Signif.	I(0)	I(1)

F-statistic	6.739074	10%	2.08	3
k	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15

Source: From author's computation using E-views 10

Table 4.7: Estimated Long-run using ARDL approach

VARIABLES	COEFFICIENT	STANDARD ERROR	T- STATISTICS	PROB
RGDP	-140.7270	980.3213	-0.143552	0.8874
EXR	19697.21	123448.0	0.159559	0.8749
INTR	593059.2	900029.4	0.658933	0.5178
BCOP	-582360.9	361372.8	-1.611524	0.1236
FDI	21343194	3911976.	5.455860	0.0000
C	-7228765.	19505696	-0.370598	0.7150

Source: From author's computation using Microfit 4.1

The table 4.6 above shows the result of the estimated long run coefficient using ARDL approach. It shows that none of the variables except FDI is statistically significant at 5%. The table also shows that RGDP and BCOP have negative long run relationship with BOP, while EXR, INTR and FDI have positive long run relationship with BOP.

4.2.6 The Error Correction Model

Since there is an existence of Co-integration amongst the series, an Error Correction Mechanisn is to be perform on the series to correct for any dis-equilibrium in the short run. An ECM gives the dynamics of both short-run (changes) and Long-run (levels) adjustment processes are modelled simultaneously, thereby offering the possibility of revealing information about both the short-run and long-run relationship.

Table 4.7: Error Correction Result

Error Correction Representation for the Selected ARDL Model

ARDL(4,4,0,1,1,3) selected based on R-BAR Squared Criterion

Dependent variable is dBOP

38 observations used for estimation from 1985 to 2022

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dBOP1	1.9642	.45568	4.3105[.000]
dBOP2	1.3933	.31092	4.4813[.000]
dBOP3	.49463	.18408	2.6870[.013]
dRGDP	-12921.0	9448.3	-1.3675[.185]
dRGDP1	12721.8	8457.4	1.5042[.146]
dRGDP2	-13827.5	9421.0	-1.4677[.156]
dRGDP3	-28845.1	9605.5	-3.0030[.006]

dEXR	66496.2	419347.9	.15857[.875]
dINTR	5128746	2999546	1.7098[.101]
dBCOP	1582186	977364.2	1.6188[.119]
dFDI	2.95E+07	7723451	3.8170[.001]
dFDI1	-2.25E+07	1.55E+07	-1.4446[.162]
dFDI2	-2.56E+07	1.06E+07	-2.4266[.023]
dC	-2.44E+07	6.48E+07	-.37657[.710]
ecm(-1)	-3.3759	.55646	-6.0668[.000]

R-Squared	.86139	R-Bar-Squared	.73008
S.E. of Regression	4.14E+07	F-stat. F(14, 23)	8.4342[.000]
Mean of Dependent Variable	11404.6	S.D. of Dependent Variable	7.97E+07
Residual Sum of Squares	3.26E+16	Equation Log-likelihood	-707.2401
Akaike Info. Criterion	-726.2401	Schwarz Bayesian Criterion	-741.7972
DW-statistic	2.4430		

Source: From author's computation using Microfit4.1

Table 4.7 above depicts the output of the Error Correction Model (ECM) and it reveals that any divergence of BOP in Nigeria away from the equilibrium level, it will be adjusted by a speed of 33.8% within a year. In the case of any external shock to the BOP, the speed of adjustment is statistically significant. The coefficient of determination is 0.86, which shows that about 86% of the variations

in BOP were explained by the variables in the model, while 14% is due to other variables outside the model or captured by the stochastic error term.

The coefficient of RGDP is -12920.95 and it shows that 1 unit increase in RGDP will decrease BOP by about 12920.95 units in the short run. The t-statistics of -1.368 revealed that RGDP is not statistically significant at the 5% significant level.

The coefficient of INTR is 5128746.0 and it shows that 1 unit increase in INTR will result to about 5128746.0 units in BOP in the short run. The t-statistics of 0.1586 revealed that INTR is not statistically significant at the 5% significant level.

The coefficient of EXR is 66496.2 and it shows that 1 unit increase in EXR will result to about 66496.2 increase in BOP in the short run. The t-statistics of 1.710 revealed that EXR is not statistically significant at the 5% significant level.

The coefficient of BCOP is 1582186 and it shows that 1 unit increase in BCOP will result to about 1582186 increase in BOP in the short run. The t-statistics of 1.617 revealed that BCOP is not statistically significant at the 5% significant level.

The coefficient of FDI is 2.95 and it shows that 1 unit increase in FDI will result to about 2.95 increase in BOP in the short run. The t-statistics of 3.28 revealed that FDI is not statistically significant at the 5% significant level.

The F- Statistics with a value of 8.4342 revealed that the overall model is statistically significant in explaining BOP in Nigeria.

4.2.7 Policy Implication of Findings

A negative relationship exists between RGDP and BOP both in the long run and short run. This implies that there is increased imports due to higher domestic consumption and investment, or a decrease in exports due to rising domestic costs in Nigeria.

There exists a positive relationship between EXR and BOP in both the short-run as well as the long-run. This can imply that when the exchange rate appreciates the BOP improves.

A positive relationship exists between INTR and BOP in Nigeria in both long-run and short-run. This can imply that when interest rate increases, the BOP improves. Higher interest rates attract foreign investment and this can in turn help to improve the balance of payment.

A positive relationship exists between BCOP and BOP in both long-run and short-run in Nigeria. The implication of this is that as brent oil prices increase the BOP improves. This is as a result that higher oil prices lead to increased export revenues which help to improve BOP.

A negative relationship exists between FDI and BOP in Nigeria in both long-run and short-run. The implication of positive relationship is that when FDI decreases, the BOP improves. This can arise if the outflows associated with FDI (e.g

repatriation of profits, interest payment, and capital repatriation) outweigh the inflows in Nigeria.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Introduction

This chapter comprises of the summary and conclusion of the previous chapter and the recommendation (way forward) through its analysis.

5.2 Summary & Conclusion

Nigeria's Balance of Payments serves as a significant indicator of its economic performance. Favourable economic conditions, including economic expansion, foreign direct investment (FDI), interest rates, and crude oil prices, have a positive impact on the balance of payments. Conversely, exchange rate fluctuations have an adverse effect on the overall balance of payments. In short-term models, the current exchange rate coefficient coefficients displayed a substantial influence on the Balance of Payments. Nigeria's fiscal and budgetary management demonstrate a balanced approach.

5.3 Recommendation:

1. **Promote Economic Growth:** The government should prioritize policies that foster economic growth to enhance productivity. This entails strategic investments and subsequent returns on such investments.
2. **Attract Foreign Investment:** The government should implement measures to attract FDI by offering incentives to foreign investors.
3. **Maintain Stability in Niger Delta:** Fostering a sense of community and addressing grievances in the Niger Delta region is crucial for ensuring stability and facilitating unrestricted oil trade. OPEC must meet production quotas in response to rising oil prices to ensure market stability.
4. **Balanced Monetary Policy:** Establishing a comprehensive monetary policy framework that considers both interest rates and exchange rates is essential.

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APPENDIX

Year	BOP	RGDP	EXR	INTR	BCOP	FDI
1981	-3998.4	19748.53	0.61	5.715833	35.9	0.542327
1982	-4879.5	18404.96	0.67	7.6	33	0.430611
1983	-3137.9	16394.39	0.72	7.411667	29.6	0.364435
1984	44.1	16211.49	0.76	8.254167	28.7	0.189165
1985	2215.4	17170.08	0.89	9.116667	27.5	0.485581
1986	-2999.1	17180.55	2.02	9.235	14.4	0.193215

1987	-295.3	17730.34	4.02	13.0875	18.4	0.610552
1988	-965.7	19030.69	4.54	12.95	15	0.378667
1989	10684.1	19395.96	7.39	14.675	18.2	1.88425
1990	44731.2	21680.2	8.04	19.78333	23.8	0.587883
1991	12655.4	21757.9	9.91	14.91667	20.1	0.712373
1992	39422.8	22765.55	17.3	18.04167	19.4	0.896641
1993	-19488.7	22302.24	22.05	23.24167	17.1	1.345369
1994	-52304.3	21897.47	21.89	13.09167	16	1.95922
1995	-186085	21881.56	21.89	13.53083	17.2	0.335842
1996	376024	22799.69	21.89	13.05917	20.8	0.499277
1997	263295.7	23469.34	21.89	7.169167	19.1	0.469577
1998	-331430	24075.15	21.89	10.10833	12.8	0.299567
1999	46336.21	24215.78	92.69	12.81083	17.9	1.004916
2000	713023.9	25430.42	102.11	11.69083	28.4	1.140168
2001	242901.3	26935.32	111.94	15.25583	24.45	1.190619
2002	-117037	31064.27	120.97	16.67	25.01	1.874071
2003	704560	33346.62	129.36	14.2175	28.83	2.005354
2004	2056326	36431.37	133.5	13.69834	38.1	1.874061
2005	4810028	38777.01	132.15	10.5325	54.38	4.982534
2006	4698047	41126.68	128.65	9.751667	65.14	4.854354
2007	3478375	43837.39	125.83	10.28833	72.52	6.036021
2008	3.46E+08	46802.76	118.57	11.8675	96.99	8.194072
2009	2064890	50564.26	148.88	12.95833	61.51	8.55599
2010	1970592	55469.35	150.3	6.520833	79.47	6.026253
2011	1641463	58180.35	153.86	5.6925	111.26	8.841062
2012	2736448	60670.05	157.5	8.405	111.63	7.069908
2013	2996627	63942.85	157.31	7.945	118.56	5.562858
2014	142571.4	67977.46	158.55	9.3375	98.97	4.693829
2015	-3033485	69780.69	193.28	9.148333	52.32	3.064169
2016	1282961	68652.43	253.49	7.495201	43.67	3.453258
2017	4140830	69205.69	305.79	9.554486	54.25	2.412975
2018	2225551	70536.35	306.08	9.700712	71.34	0.775247
2019	-4193430	72094.09	306.92	8.900517	64.3	2.3051
2020	-5725301	70800.54	358.81	4.646627	41.96	2.385278
2021	-1331003	73382.77	400.24	4.206848	70.86	3.31321
2022	433418.5	74752.42	425.98	5.963357	100.93	-0.18679

Ordinary Least Squares Estimation

****

Dependent variable is BOP

42 observations used for estimation from 1981 to 2022

****

Regressor	Coefficient	Standard Error	T-Ratio[Prob]
C	-8213163	4.13E+07	-.19901[.843]
RGDP	-1787.2	1393.6	-1.2824[.208]
EXR	161857.0	199799.6	.81010[.423]
INTR	1695501	2336708	.72559[.473]
BCOP	665657.6	556806.4	1.1955[.240]
FDI	7703328	5183887	1.4860[.146]

****

R-Squared .20600 R-Bar-Squared .095717

S.E. of Regression 5.07E+07 F-stat. F(5, 36) 1.8680[.124]

Mean of Dependent Variable 8754622 S.D. of Dependent Variable 5.33E+07

Residual Sum of Squares 9.24E+16 Equation Log-likelihood -801.4674

Akaike Info. Criterion -807.4674 Schwarz Bayesian Criterion -812.6804

DW-statistic 2.2713

****

Diagnostic Tests

****

* Test Statistics *	LM Version	* F Version	*
* A:Serial Correlation	*CHSQ(1)= 1.0117[.314]	*F(1, 35)= .86392[.359]	*
* B:Functional Form	*CHSQ(1)= 21.2354[.000]	*F(1, 35)= 35.7936[.000]	*
* C:Normality	*CHSQ(2)= 1102.0[.000]	* Not applicable	*
* D:Heteroscedasticity	*CHSQ(1)= 21.0293[.000]	*F(1, 40)= 40.1119[.000]	*

****
****

A:Lagrange multiplier test of residual serial correlation
B:Ramsey's RESET test using the square of the fitted values
C:Based on a test of skewness and kurtosis of residuals
D:Based on the regression of squared residuals on squared fitted values

Unit root tests for residuals

****

Based on OLS regression of BOP on:

C RGDP EXR INTR BCOP

FDI

42 observations used for estimation from 1981 to 2022

****

Test Statistic	LL	AIC	SBC	HQC
DF -6.8818	-708.0420	-709.0420	-709.8475	-709.3260
ADF(1) -4.7234	-707.9803	-709.9803	-711.5912	-710.5482
ADF(2) -4.5632	-707.0388	-710.0388	-712.4551	-710.8906
ADF(3) -4.3276	-706.2966	-710.2966	-713.5185	-711.4325
ADF(4) -4.2001	-705.4788	-710.4788	-714.5061	-711.8986

****

95% critical value for the Dickey-Fuller statistic = -5.1757

LL = Maximized log-likelihood AIC = Akaike Information Criterion

SBC = Schwarz Bayesian Criterion HQC = Hannan-Quinn Criterion

Unit root tests for variable BOP

The Dickey-Fuller regressions include an intercept and a linear trend

****

37 observations used in the estimation of all ADF regressions.

Sample period from 1986 to 2022

****

Test Statistic	LL	AIC	SBC	HQC
DF -5.9369	-712.5183	-715.5183	-717.9347	-716.3702
ADF(1) -4.1625	-712.5121	-716.5121	-719.7340	-717.6480
ADF(2) -3.3724	-712.5037	-717.5037	-721.5310	-718.9235
ADF(3) -2.9091	-712.4886	-718.4886	-723.3214	-720.1924
ADF(4) -2.5968	-712.4675	-719.4675	-725.1057	-721.4552

****
95% critical value for the augmented Dickey-Fuller statistic = -3.5348
LL = Maximized log-likelihood AIC = Akaike Information Criterion
SBC = Schwarz Bayesian Criterion HQC = Hannan-Quinn Criterion

Unit root tests for variable DRGDP

The Dickey-Fuller regressions include an intercept but not a trend

****
36 observations used in the estimation of all ADF regressions.
Sample period from 1987 to 2022
****

Test Statistic	LL	AIC	SBC	HQC
DF -3.3840	-308.2586	-310.2586	-311.8421	-310.8113
ADF(1) -2.3333	-307.3206	-310.3206	-312.6959	-311.1497
ADF(2) -2.0670	-307.2862	-311.2862	-314.4532	-312.3915
ADF(3) -1.6933	-305.8351	-310.8351	-314.7939	-312.2169
ADF(4) -1.8172	-305.1658	-311.1658	-315.9164	-312.8239

****
95% critical value for the augmented Dickey-Fuller statistic = -2.9446
LL = Maximized log-likelihood AIC = Akaike Information Criterion
SBC = Schwarz Bayesian Criterion HQC = Hannan-Quinn Criterion

Unit root tests for variable DEXR

The Dickey-Fuller regressions include an intercept but not a trend

****
36 observations used in the estimation of all ADF regressions.
Sample period from 1987 to 2022
****

Test Statistic	LL	AIC	SBC	HQC
DF -4.0863	-156.4225	-158.4225	-160.0060	-158.9751
ADF(1) -3.6513	-156.1742	-159.1742	-161.5495	-160.0033
ADF(2) -2.6435	-156.1139	-160.1139	-163.2810	-161.2193

ADF(3)	-1.8458	-155.4204	-160.4204	-164.3792	-161.8022
ADF(4)	-1.5157	-155.2282	-161.2282	-165.9787	-162.8862

****

95% critical value for the augmented Dickey-Fuller statistic = -2.9446
LL = Maximized log-likelihood AIC = Akaike Information Criterion
SBC = Schwarz Bayesian Criterion HQC = Hannan-Quinn Criterion

Unit root tests for variable DINTR

The Dickey-Fuller regressions include an intercept but not a trend

****

36 observations used in the estimation of all ADF regressions.
Sample period from 1987 to 2022

****

	Test Statistic	LL	AIC	SBC	HQC
DF	-7.2633	-92.4069	-94.4069	-95.9904	-94.9596
ADF(1)	-6.0996	-90.7131	-93.7131	-96.0884	-94.5421
ADF(2)	-2.7185	-87.7739	-91.7739	-94.9410	-92.8793
ADF(3)	-3.8259	-84.1609	-89.1609	-93.1197	-90.5427
ADF(4)	-2.7452	-83.9004	-89.9004	-94.6510	-91.5585

****

95% critical value for the augmented Dickey-Fuller statistic = -2.9446
LL = Maximized log-likelihood AIC = Akaike Information Criterion
SBC = Schwarz Bayesian Criterion HQC = Hannan-Quinn Criterion

Unit root tests for variable DBCOP

The Dickey-Fuller regressions include an intercept but not a trend

****

36 observations used in the estimation of all ADF regressions.
Sample period from 1987 to 2022

****

	Test Statistic	LL	AIC	SBC	HQC
DF	-4.9961	-150.6004	-152.6004	-154.1839	-153.1530

ADF(1)	-4.8756	-148.9659	-151.9659	-154.3412	-152.7950
ADF(2)	-3.6477	-148.9659	-152.9659	-156.1330	-154.0713
ADF(3)	-3.6662	-148.2900	-153.2900	-157.2488	-154.6717
ADF(4)	-2.2468	-147.0452	-153.0452	-157.7958	-154.7033

****

95% critical value for the augmented Dickey-Fuller statistic = -2.9446
LL = Maximized log-likelihood AIC = Akaike Information Criterion
SBC = Schwarz Bayesian Criterion HQC = Hannan-Quinn Criterion

Unit root tests for variable DFDI

The Dickey-Fuller regressions include an intercept but not a trend

****

36 observations used in the estimation of all ADF regressions.
Sample period from 1987 to 2022

****

Test Statistic		LL	AIC	SBC	HQC
DF	-6.7488	-61.2980	-63.2980	-64.8815	-63.8506
ADF(1)	-4.0350	-61.2718	-64.2718	-66.6471	-65.1009
ADF(2)	-2.5105	-60.3383	-64.3383	-67.5054	-65.4437
ADF(3)	-1.9142	-59.8461	-64.8461	-68.8049	-66.2278
ADF(4)	-1.7787	-59.8460	-65.8460	-70.5966	-67.5041

****

95% critical value for the augmented Dickey-Fuller statistic = -2.9446
LL = Maximized log-likelihood AIC = Akaike Information Criterion
SBC = Schwarz Bayesian Criterion HQC = Hannan-Quinn Criterion

Estimated Long Run Coefficients using the ARDL Approach

ARDL(4,4,0,1,1,3) selected based on R-BAR Squared Criterion

****

Dependent variable is BOP
38 observations used for estimation from 1985 to 2022

****
Regressor	Coefficient	Standard Error	T-Ratio[Prob]
RGDP	-140.7270	980.3213	-.14355[.887]
EXR	19697.2	123448.0	.15956[.875]
INTR	593059.2	900029.4	.65893[.518]
BCOP	-582360.9	361372.8	-1.6115[.124]
FDI	2.13E+07	3911976	5.4559[.000]
C	-7228765	1.95E+07	-.37060[.715]

****

Error Correction Representation for the Selected ARDL Model
ARDL(4,4,0,1,1,3) selected based on R-BAR Squared Criterion

****
Dependent variable is dBOP
38 observations used for estimation from 1985 to 2022
****
Regressor	Coefficient	Standard Error	T-Ratio[Prob]
dBOP1	1.9642	.45568	4.3105[.000]
dBOP2	1.3933	.31092	4.4813[.000]
dBOP3	.49463	.18408	2.6870[.013]
dRGDP	-12921.0	9448.3	-1.3675[.185]
dRGDP1	12721.8	8457.4	1.5042[.146]
dRGDP2	-13827.5	9421.0	-1.4677[.156]
dRGDP3	-28845.1	9605.5	-3.0030[.006]
dEXR	66496.2	419347.9	.15857[.875]
dINTR	5128746	2999546	1.7098[.101]
dBCOP	1582186	977364.2	1.6188[.119]
dFDI	2.95E+07	7723451	3.8170[.001]
dFDI1	-2.25E+07	1.55E+07	-1.4446[.162]
dFDI2	-2.56E+07	1.06E+07	-2.4266[.023]
dC	-2.44E+07	6.48E+07	-.37657[.710]
ecm(-1)	-3.3759	.55646	-6.0668[.000]

```
*************************************************************************
*************
 List of additional temporary variables created:
 dBOP = BOP-BOP(-1)
 dBOP1 = BOP(-1)-BOP(-2)
 dBOP2 = BOP(-2)-BOP(-3)
 dBOP3 = BOP(-3)-BOP(-4)
 dRGDP = RGDP-RGDP(-1)
 dRGDP1 = RGDP(-1)-RGDP(-2)
 dRGDP2 = RGDP(-2)-RGDP(-3)
 dRGDP3 = RGDP(-3)-RGDP(-4)
 dEXR = EXR-EXR(-1)
 dINTR = INTR-INTR(-1)
 dBCOP = BCOP-BCOP(-1)
 dFDI = FDI-FDI(-1)
 dFDI1 = FDI(-1)-FDI(-2)
 dFDI2 = FDI(-2)-FDI(-3)
 dC = C-C(-1)
 ecm = BOP + 140.7270*RGDP  -19697.2*EXR -593059.2*INTR +
582360.9*BCOP -2.13E
+07*FDI +  7228765*C
*************************************************************************
*************
 R-Squared                      .86139   R-Bar-Squared                  .73008
 S.E. of Regression          4.14E+07   F-stat.    F( 14,  23)    8.4342[.000]
 Mean of Dependent Variable   11404.6   S.D. of Dependent Variable    7.97E+07
 Residual Sum of Squares     3.26E+16   Equation Log-likelihood      -707.2401
 Akaike Info. Criterion      -726.2401   Schwarz Bayesian Criterion   -741.7972
 DW-statistic                   2.4430
*************************************************************************
*************
 R-Squared and R-Bar-Squared measures refer to the dependent variable
 dBOP and in cases where the error correction model is highly
 restricted, these measures could become negative.
```