



Remittances, Exchange Rate Shocks, and Balance of Payments Stability in Nigeria

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Abstract

Nigeria's balance of payments (BoP) has remained persistently unstable, exposed to recurrent external shocks driven by volatile remittance inflows, erratic exchange rate movements, and overreliance on oil revenues. Despite being one of Africa's largest remittance recipients receiving over US\$20 billion in 2022 Nigeria continues to grapple with foreign exchange shortages, trade imbalances, and macroeconomic fragility, raising critical questions about the effectiveness of these inflows in stabilizing the external sector. This study examines how remittances and exchange rate shocks jointly influence BoP stability in Nigeria over the period 1981–2022. It is anchored on a robust macroeconomic theoretical framework including the Purchasing Power Parity (PPP), the research employs the Autoregressive Distributed Lag (ARDL) model and Wald test to capture both short- and long-run dynamics. Empirical results reveal that remittance inflows significantly enhance BoP stability $\{0.938013 (0.0397)\}$ by boosting foreign exchange reserves, while exchange rate volatility exerts a complex, nonlinear impact: initial depreciation worsens the BoP due to rising import costs, but improves it over time by enhancing export competitiveness. The Wald test confirms that exchange rate shocks jointly and significantly affect BoP fluctuations. The study also finds foreign direct investment to be a robust stabilizer $\{1.6225(0.0217)\}$, whereas external debt shows no significant short-run effect $\{-1.2636(0.5547)\}$. These findings underscore the urgent need for coordinated macroeconomic policies that harness remittances for productive investment, stabilize exchange rate expectations through a managed float regime, diversify the export base, and strengthen institutional frameworks for financial inclusion.

Keywords: Remittances, Exchange Rate Shocks, Balance of Payments Shocks, Autoregressive Distributed Lag.

1.0 Introduction

The Balance of Payments (BoP) is a critical macroeconomic indicator that reflects a nation's financial transactions with the rest of the world (Udoett, 2015). It serves as a comprehensive record of trade in goods and services, financial transfers, and capital flows between domestic and foreign entities. Theoretically, the BoP should be balanced, meaning that total inflows (credits) and outflows (debits) are equal. However, in practice, persistent surpluses or deficits often emerge due to economic shocks, structural imbalances, and macroeconomic policy inconsistencies (Heakal, 2024). Nigeria's BoP has experienced significant fluctuations over the years, largely driven by external factors such as oil price volatility, exchange rate fluctuations, remittance inflows, inflationary pressures, trade imbalances, and monetary policy shifts.

From the late 1990s to the mid-2000s, Nigeria's BoP improved steadily due to rising crude oil prices, peaking around 2008 before being adversely affected by the 2008–2009 global financial crisis. Subsequent fluctuations continued, with a sharp deterioration observed during the 2015–2016 oil price crash, which led to foreign exchange shortages, capital flight, and an economic recession. These trends highlight the vulnerability of Nigeria's external sector to exogenous shocks, necessitating a deeper understanding of the key factors influencing BoP stability.

One of the most significant factors influencing Nigeria's external balance is remittance inflows, which have grown substantially in recent decades and now represent a crucial source of foreign

exchange earnings (Olabisi and Ogbeide, 2020). Figure 2 illustrates the trend in personal remittance inflows to Nigeria from 1981 to 2022, showing a notable increase after 2005. Increased migration, improved financial infrastructure, and policy reforms that facilitated cross-border money transfers drove this surge.

Prior to 2005, remittance inflows remained relatively stable, but they experienced exponential growth in the following years, reflecting Nigeria's rising diaspora population and their increasing contribution to household income. However, remittance flows have also exhibited periodic fluctuations, particularly after 2015, largely due to exchange rate volatility, global economic crises, and domestic policy shifts. The COVID-19 pandemic (2020–2021) significantly impacted remittance inflows, as widespread job losses and mobility restrictions in host countries reduced the ability of Nigerian migrants to send money home. Despite this, remittances rebounded in 2022, with over US\$20.13 billion recorded through formal financial channels (World Bank, 2025), underscoring their resilience and importance in Nigeria's economy.

Although remittances provide a stable source of foreign exchange, their impact on BoP stability remains ambiguous. While they can offset trade deficits, support foreign exchange reserves, and boost household consumption, they may also fuel inflationary pressures, increase demand for imports, and contribute to exchange rate distortions (Mbadiwe and Egesimba, 2024). Consequently, a deeper examination of their interaction with exchange rate movements, inflation, and trade openness is necessary to fully understand their role in Nigeria's external sector.

Similarly, exchange rate shocks often triggered by global oil price fluctuations, monetary policy shifts, and speculative activities pose a major threat to Nigeria's BoP stability. A sharp depreciation of the naira increases import costs, exacerbates trade deficits, and heightens inflationary pressures, whereas a sudden appreciation can reduce export competitiveness and limit foreign exchange earnings (Ojabello, 2024). Given Nigeria's heavy reliance on crude oil exports, exchange rate movements are closely tied to global oil price dynamics, making external stability highly uncertain.

In addition to remittances and exchange rate fluctuations, inflation, interest rates, trade openness, and foreign direct investment (FDI) are key determinants of BoP stability. Inflation affects the real value of remittances and exchange rate movements, influencing Nigeria's external position. Trade openness determines the extent of trade surpluses or deficits, while FDI inflows can enhance foreign exchange reserves and capital accumulation. Despite the interconnectedness of these variables, existing studies have largely examined them in isolation, leading to an incomplete understanding of how they jointly affect BoP stability.

Against this background, this study aims to find out the impact of remittances and exchange rate shocks on balance of payments stability in Nigeria. It seeks to identify if increases and decreases in remittances and exchange rate shocks are detrimental to balance of payments stability.

The research is driven by the following key questions: What is the impact of remittance inflows on Nigeria balance of payments stability? How does exchange rate shocks influence fluctuations in Nigeria's balance of payments? What are the direct and indirect effects of exchange rate shocks on Bop fluctuations? What policy strategies can be explored for enhancing Bop stability in Nigeria?

By answering these questions, this study fills an important gap in the literature on the macro determinants of balance of payment stability in Nigeria.

The rest of this study is organized as follows: section 2 dealt with literature review, section 3 focused on methodology, section 4 presents the result while section 5 concludes the paper.

2.0 Literature Review

2.1 Conceptual Review

This subsection sheds light on the conceptual foundation for the study.

2.1.1 Concept of Remittance

Remittances refer to the money that migrants send back to their home country, often to support family members. In Nigeria, remittances are a significant source of foreign exchange, particularly from Nigerians living abroad. These funds contribute to household income and can help support consumption, education, and healthcare in Nigeria. Remittances also play a crucial role in economic stability, as they can cushion against economic shocks and provide a steady flow of foreign currency (Akighiri and Atswan, 2023).

Remittances can be money sent as payment for a bill. However, most remittances involve sending money to relatives. They are often sent by foreign workers to family members in their home countries. The most common way of making a remittance is by using an electronic payment system through a bank or an electronic money transfer service such as Western Union. People who use these options are generally charged a fee. Transfers can take as little as ten minutes to reach the recipient. Remittances play an increasingly large role in the economies of small and developing countries. They also play an important role in disaster relief, often exceeding official development assistance (ODA). They help raise the standard of living for people in low-income nations and help combat global poverty. In fact, since the late 1990s, remittances have exceeded development aid and in some cases make up a significant portion of a country's gross domestic product (GDP). (Mbadiwe & Egesimba, (2024). Ojabello (2024) observed that exchange rate shocks can have significant impact on a country's economy, affecting trade balances, inflation and overall economic stability.

2.1.2 Concept of Exchange Rate Shocks

Exchange rate shocks refer to sudden or unpredictable changes in the value of a country's currency relative to other currencies. In Nigeria, exchange rate fluctuations are often influenced by factors like oil prices (since Nigeria is heavily reliant on oil exports), global economic conditions, and domestic policies. A depreciation of the Naira (Nigeria's currency) can lead to higher import costs, inflation, and reduced purchasing power, which negatively affects the economy. On the other hand, an appreciation of the Naira can benefit importers but may harm exporters who earn in foreign currencies (Nnamdi, 2021).

Exchange rate shocks have a significant impact on inflation, interest rates, and trade, just to name a few. Rate shocks is a term used to describe when the value of one currency spikes relative to another in an extremely short period of time. Beyond directly influencing different economic channels, exchange rate shocks have policy implications which are not as easily understandable. If an incident causes a change in import prices or domestic inflation, then subsequent monetary policies should be enacted to counter them. That said, economic theory doesn't always match up to what happens in the real world (Ojabello, 2024).

2.1.3 Concept Balance of Payment Stability

Balance of payment (Bop) stability refers to a country's ability to meet its external financial obligations and maintain a stable exchange rate. It involves managing the flow of foreign exchange and maintaining a balance between exports and imports.

A stable balance of payments is crucial for economic growth as it attracts foreign investment maintained exchange rate stability, ensures debt repayment and support economic policy-making.

Achieving balance of payment stability is crucial for the country's economic health as it impacts its ability to finance imports, service debt, and maintain a stable exchange rate. (International monetary fund, 2023). Gomes (1990) & Heakel (2024) stated that Bop stability is crucial for a country's economic health, reflecting its ability to meet external financial obligations and maintain exchange rate stability.

2.2 Theoretical Review

This study utilizes the Balance of Payments Theory, Purchasing Power Parity (PPP) and exchange rate theory to analyze how macroeconomic variables particularly remittances, exchange rate, External Debt foreign direct investment impact balance of payments stability in Nigeria.

2.2.1 The Balance of Payments Theory

The BoP theory suggests that a country's external account reflects the economic transactions between its residents and the global market (Heakal, 2024). A stable Balance of Payments (BoP) is crucial for macroeconomic stability, as persistent deficits or surpluses can indicate structural weaknesses or imbalances. Exchange rate movements and remittance inflows significantly impact the BoP by influencing trade balances, capital flows, and reserve accumulation (Gomes, 1990). Remittances boost the current account by increasing foreign exchange reserves, while exchange rate shocks can disrupt trade and capital flow patterns, potentially destabilizing the external account.

2.2.2 Purchasing Power Parity (PPP) and Exchange Rate Theory

A popular macroeconomic analysis metric, purchasing power parity (PPP), compares economic productivity and living standards between countries. PPP involves an economic theory that compares different countries' currencies through a "basket of goods" approach. To buy the same amount of a large group of products, one nation's currency is converted into another at PPP. This notion posits that two currencies are in equilibrium at par when a basket of products is priced identically in both nations, considering the exchange rates (Investopedia Team, 2024). Exchange rate shocks, whether depreciation or appreciation, directly affect the trade balance and, consequently, the BoP. In Nigeria, exchange rate depreciation could potentially boost import costs and enhance export competitiveness, potentially enhancing the trade balance. Conversely, sudden exchange rate appreciation may adversely affect the BoP by increasing import demand and reducing export competitiveness. The relative version of significantly impact the Bop by influencing trade balances, capital flows/ and reserve accumulation (Gomes, 1990). Remittances boost the current account by increasing foreign exchange reserves, while exchange rate shocks can disrupt trade and capital flow patterns, potentially destabilizing me external account.

2.3 Empirical Review

The literature on Nigeria's macroeconomic dynamics, remittances, and exchange rates reveals several interrelated themes and findings:

Mbadiwe and Egesimba (2024) examine the relationship between remittances (REM), Overseas Development Assistance (ODA), and Nigeria's economic growth from 1986 to 2021. Using the Error Correction Model (ECM), they find that remittances and Gross Fixed Capital Formation (GFCF) positively impact Real Gross Domestic Product (RGDP), while the exchange rate (EXR) has a negative effect. Interestingly, ODA shows no significant impact on economic growth, underscoring the critical role of remittances in Nigeria's development.

Aja Okorie (2024) highlight the significant contribution of diaspora remittances to Nigeria's GDP and socio-economic welfare. Applying the push-and-pull theory of migration, the study identifies challenges such as brain drain in critical sectors like health and education and calls

for optimizing remittance benefits and improving living standards to mitigate skilled worker emigration.

Akighir and Atswam (2023) investigate the relationship between remittance inflows, foreign exchange, exchange rates, and exports using a Structural Vector Autoregressive (SVAR) model. They find that remittance inflows increase foreign exchange reserves, which, in turn, raise exchange rates. However, this exchange rate appreciation negatively impacts the competitiveness of export-oriented sectors. Similarly, Osigwe and Madichie (2015) analyze the relationship between remittance inflows, monetary aggregates, exchange rates, and domestic price levels using Johansen co-integration and Granger causality techniques. The results reveal a long-run relationship among the variables and unidirectional causality from money supply to remittance inflows at lag one, but no evidence of causality between inflation and remittance inflows.

Usman and Bukar (2023) investigates the relationship between economic growth, trade openness, remittances, exchange rates, and agricultural output in E7 economies from 1990 to 2020. The study reveals no causal relationship between GDP and agricultural output but identifies unidirectional causality from agriculture to economic growth, suggesting agriculture as a key driver of growth. Imam Kpodar & Oloufade & Gammadifgbe (2024) examine the relationship between uncertainty and remittance flows, finding that uncertainty in remittance-sending countries negatively affects remittance inflows. In recipient countries, high private investment ratios reduce remittances, while low public spending on education and health increases them.

Akeerebari (2022) investigates diaspora cash remittances' impact on Nigeria's macroeconomic stability using ECM, Granger causality tests, and VAR techniques. Findings reveal that personal remittances and exchange rates influence unemployment rates in both the short and long term, while outward remittances help reduce unemployment. However, remittances and exchange rates have limited exogenous influence on future GDP per capita growth. Similarly, Nnamdi (2021) uses the Vector Error Correction Mechanism (VECM) to assess exchange rate impacts on Nigeria's balance of payments. The findings show a positive relationship between the balance of payments and exchange rates, with significant causality between exchange rate fluctuations and balance of payments adjustments.

Similarly, Ogbeide Olarinde and Obadeyi (2022) analyze the impact of remittance inflows on Nigeria's economic performance from 1962 to 2020. Using correlation analysis, the General Method of Moments (GMM), and Johansen co-integration techniques, they find that remittance inflows positively influence economic performance, particularly through interactions with exchange rates and inflation rates.

3.0 Methodology

This section details data sources, model specifications, and econometric techniques used to analyze the relationship between remittances, exchange rate shocks, and balance of payments stability in Nigeria. The Autoregressive Distributed Lag model was used to examine short- and long-run dynamics, while a Wald test was used to analyze the effects of exchange rate shocks.

3.1 Data Sources: The study employs time-series for Nigeria spanning the period from 1981-2022 obtained from the CBN statistical bulletin 2025.

3.2 Model Specification

This study examines the impact of remittances on Nigeria's BoP stability, as they increase foreign exchange reserves and expand the domestic money supply. It also examines how exchange rate fluctuations affect Nigeria's BoP, and how the Central Bank of Nigeria responds

through monetary policies, such as interest rate adjustments or foreign exchange interventions, to mitigate the negative impacts of these factors. The Monetary Approach to the Balance of Payments (MABP) is used in this study to show that imbalances in the balance of payments are mostly caused by changes in money flows, such as remittances and changes in the exchange rate.

The MABP aligns with the ARDL model, allowing for analysis of short-run and long-run effects on Nigeria's BoP, assessing the influence of remittances and exchange rate shocks.

The functional relationship is expressed as:

$$BoPGDP_t = f(REM_t, EXR_t, RGDPG_t, EDBT_t, FDI_t)$$

The econometric model is specified as:

$$BoPGDP_t = \beta_0 + \beta_1 REM_t + \beta_2 EXR_t + \beta_3 RGDPG_t + \beta_4 EDBT_t + \beta_5 FDI_t + \varepsilon_t$$

Where:

β_0 : Intercept, Bop GDP = Balances of payment, REM = Remittances, EXR = Exchange rate, RGDPG = Real GDP Growth, EDBT External Debt and FDI = Foreign Direct Investment

ε_t : Error term

4.0 Results and Discussion

4.1 Preliminary Results

4.1.1 Unit Root Test

Unit root tests are utilized in time series analysis to establish the stationarity of variables, ensuring constant statistical properties over time. These results guide the selection of an appropriate econometric model, such as the ARDL model, which can accommodate variables at different levels I(0), or I(1).

The following is a summary of the ADF and PP test outcomes in table 2 for each variable in the model. The test statistics and P-values for each test are provided along with the conclusion about the stationarity of the series.

The unit root test results, as depicted in Table 2 below:

Table 1: Unit Root Tests Results

Variables	ADF Test Statistic		PP Test Statistic	
	Level	1st Diff	Level	1st Diff
Balance of Payment (BoP)	-2.72	-5.99*	-2.65	-8.38*
Remittances (REM)	-0.94	-6.53*	-0.94	-6.53*
Exchange Rate (EXR)	2.84	-4.23*	3.24	-4.16*
Real GDP Growth (RGDPG)	-3.20*	-10.55*	-4.33*	-10.94*
External Debt (EDBT)	-5.85*	-10.25*	-5.85*	-33.80*
Foreign Direct Investment (FDI)	-3.72*	-9.85*	-3.67*	-12.37*

Source: Authors computation using Eviews 12 (2025)

The Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests in Table 1 show that Balance of Payment (BoP), Remittances (REM), and Exchange Rate (EXR) are non-stationary at levels but become stationary after differencing, confirming their I(1) status. Real GDP

Growth (RGDPG), External Debt (EDBT), and Foreign Direct Investment (FDI) are stationary at levels, indicating I(0), making the ARDL model suitable for this study.

4.1.2 Bounds Testing for Cointegration

The Bounds Test for Cointegration presented in table 3 is a statistical method used to determine the existence of a long-run relationship among variables. It can be a null hypothesis (H_0) or an alternative hypothesis (H_1). If the F-statistic is greater than the upper bound, it rejects H_0 (cointegration exists), lower than the lower bound, or between bounds, it is inconclusive.

Table 2: F-Bounds Test for Cointegration

F-Bounds Test	Null Hypothesis: No levels relationship			
	Value	Sign.	I(0)	I(1)
F-statistic	4.099225	10%	2.08	3
K	5	5%	2.39	3.38
		2.5%	2.7	3.73
		1%	3.06	4.15

Source: Eviews 12 (2025)

The null hypothesis presented table 2 is rejected due to the F-statistic (4.975922) surpassing the upper bound (I(1)) at both 5% and 10% significance levels. This proves that remittances, exchange rates, balance of payment, and other variables that help explain things are linked over a long period of time, which means that either the ARDL or NARDL model is correct.

4.2 Long-run Estimation

Once the ARDL Bounds Test confirms the existence of a long-run relationship among the variables, the next step is to estimate the long-run coefficients of the model. This estimation helps to determine how remittances and exchange rate shocks impact the balance of payments (BoP) over time.

Table 3: Long run Results

Selected Model: ARDL(2, 0, 3, 4, 1, 4)				
Variable	Coefficient	Std. Error	t-Statistic	Prob.*
BOP(-1)	0.902034	0.163448	5.518779	0.0000
BOP(-2)	-0.699568	0.160030	-4.371487	0.0004
REM	0.938013	0.423051	2.217260	0.0397
EXR	-0.091669	0.034437	-2.661921	0.0159
EXR(-1)	0.141927	0.045309	3.132414	0.0058
EXR(-2)	-0.143295	0.044250	-3.238285	0.0046
EXR(-3)	0.086932	0.034981	2.485133	0.0230
RGDPG	0.089752	0.156039	0.575191	0.5723
RGDPG(-1)	-0.183292	0.154249	-1.188283	0.2502
RGDPG(-2)	0.443300	0.146193	3.032282	0.0072
RGDPG(-3)	0.225417	0.149633	1.506460	0.1493
RGDPG(-4)	-0.348513	0.165023	-2.111902	0.0489
EDBT	-1.263631	4.050960	-0.311934	0.7587
EDBT(-1)	-3.773834	3.572225	-1.056438	0.3047
FDI	1.622486	0.645335	2.514178	0.0217

FDI(-1)	0.010160	0.649515	0.015643	0.9877
FDI(-2)	-0.490477	0.682655	-0.718485	0.4817
FDI(-3)	1.184823	0.710831	1.666814	0.1129
FDI(-4)	-2.635420	0.827664	-3.184166	0.0051
C	-15.71257	7.182794	-2.187528	0.0421
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R-squared	0.889980			

Source: Eviews 12 (2025)

Based on the ARDL model, ARDL(2,0,3,4,1,4), model, presented in table 3, the first lag of the Balance of Payments (BoP) is positive and significant, indicating a strong influence of past BoP values on current BoP, while the second lag has a negative coefficient, indicating a reversal effect. The coefficient for REM is 0.938013 with a p-value of 0.0397, positive and statistically significant, indicating that an increase in net inflows of remittances improve the Balance of Payments (BoP) by about 94%. Studies such as those of Mbadiwe and Egesimba (2024) and Ogbeide et al (2022) confirm that remittance drive economic growth, whereas Akighir and Atswam (2023) emphasize their potential to appreciate exchange rates, thereby reducing export competitiveness.

The first lag of the exchange rate (EXR(-1)) presented in table 3 is positive and statistically significant, indicating that previous exchange rate depreciation can improve the BoP in subsequent periods. The second lag (EXR(-2)) is negative, suggesting that continued exchange rate volatility harms the BoP. The third lag (EXR(-3)) is positive, implying that past exchange rate fluctuations have a mixed effect on the BoP. This finding is corroborated by Sani et al (2019) and Jubril (2019) who identify exchange rate fluctuations as a key determinant of trade performance while Usman and Buker (2020) argue that exchange rate depreciation can negatively impact balance of payment Bop stability if not properly managed.

The coefficient for current real GDP growth (RGDPG) is 0.0898 with a p-value of 0.5723, which is insignificant, indicating that short-run GDP growth does not significantly affect the Balance of Payments (BoP). The second lag of GDP growth (RGDPG(-2)) is positive and statistically significant, suggesting that economic growth from two periods ago improves the BoP. The fourth lag of GDP growth (RGDPG(-4)) is -0.3485 with a p-value of 0.0489, negative and significant, meaning that in the long run, higher GDP growth may worsen the BoP, potentially due to increased imports. The coefficient for external debt to GDP (EDBT) is which is insignificant, indicating that external debt does not directly influence the Balance of Payments (BoP) in the short run. The first lag of external debt to GDP (EDBT(-1)) is -3.7738 with a p-value of 0.3047, also insignificant, but the negative sign suggests that increasing debt could worsen the BoP over time. The coefficient for the ratio of Foreign Direct Investment to GDP (FDI) is 1.6225 with a p-value of 0.0217, positive and statistically significant, indicating that FDI inflows improve the Balance of Payments (BoP). The fourth lag of FDI to GDP (FDI(-4)) is -2.6354 with a p-value of 0.0051, negative and significant, suggesting that after four periods, FDI could lead to capital outflows or repatriation of profits, which may reduce the BoP. The R-squared value is 0.8899, meaning that the model explains 88.99% of the variations in the Balance of Payments (BoP), indicating a very strong fit.

4.3 Short-run Estimates

The Error Correction Model (ECM) is a statistical model that accurately reflects the short-run and long-run dynamics of the Balance of Payments (BoP) relationship, correcting any disequilibrium at a specific speed. Table 4 presents the short-run results of Equation 5, highlighting the immediate and lagged effects of independent variables on Nigerian BoP.

Table 4: Short-Run Results

ECM Regression				
Case 2: Restricted Constant and No Trend				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(BoP (-1))	0.699568	0.126578	5.526761	0.0000
D(EXR)	-0.091669	0.023339	-3.927668	0.0010
D(EXR(-1))	0.056362	0.023796	2.368601	0.0292
D(EXR(-2))	-0.086932	0.021556	-4.032814	0.0008
D(RGDPG)	0.089752	0.105235	0.852871	0.4049
D(RGDPG(-1))	-0.320203	0.102210	-3.132797	0.0058
D(RGDPG(-2))	0.123096	0.103257	1.192134	0.2487
D(RGDPG(-3))	0.348513	0.091396	3.813229	0.0013
D(EDBT)	-1.263631	2.099110	-0.601984	0.5547
D(FDI)	1.622486	0.433967	3.738733	0.0015
D(FDI(-1))	1.941074	0.536562	3.617610	0.0020
D(FDI(-2))	1.450597	0.542975	2.671571	0.0156
D(FDI(-3))	2.635420	0.547570	4.812941	0.0001
CointEq(-1)*	-0.797534	0.128938	-6.185421	0.0000
R-squared	0.828314			

Source: Eviews 12 (2025)

The change in the exchange rate (D(EXR)) presented in table 4 is -0.0917 with a p-value of 0.0010, indicating a significant negative impact on the Balance of Payments (BoP) in the short run. Currency depreciation worsens the BoP immediately, likely due to higher import costs. The first lag of the exchange rate (D(EXR(-1)) is 0.0564 with a p-value of 0.0292, positive and significant, suggesting that after one period, a weaker currency may improve exports and remittances, leading to an improvement in the BoP. The second lag of the exchange rate (D(EXR(-2)) is -0.0869 with a p-value of 0.0008, again negative, implying that exchange rate fluctuations have mixed effects on the BoP, depending on the timing of adjustments. The change in real GDP growth (D(RGDPG)) is 0.0898 with a p-value of 0.4049, which is insignificant in the short run. The first lag of real GDP growth (D(RGDPG(-1)) is -0.3202 with a p-value of 0.0058, negative and significant, suggesting that higher GDP growth in the previous period could worsen the Balance of Payments (BoP), possibly due to increased imports. The third lag of real GDP growth (D(RGDPG(-3)) is 0.3485 with a p-value of 0.0013, positive and significant, meaning that after a few periods, economic growth positively contributes to the BoP, likely through enhanced exports and greater foreign investment.

The change in external debt to GDP (D(EDBT)) is -1.2636 with a p-value of 0.5547, which is not significant in the short run. This suggests that external debt does not have an immediate effect on Balance of Payments (BoP) fluctuations. The change in Foreign Direct Investment to GDP (D(FDI)) is 1.6225 with a p-value of 0.0015, positive and significant, indicating that FDI inflows improve the Balance of Payments (BoP). The first lag of FDI to GDP (D(FDIGDP(-1)) is 1.9411 with a p-value of 0.0020, showing an even stronger positive impact after one period. The third lag of FDI to GDP (D(FDI(-3)) is 2.6354 with a p-value of 0.0001, reflecting a very strong positive impact after three periods. This confirms that FDI has both an immediate and delayed effect on BoP improvement.

The coefficient for the Error Correction Term (CointEq(-1)) is -0.7975 with a p-value of 0.0000, which is highly significant and negative. This indicates that the model corrects 79.75% of the

disequilibrium in each period. In other words, if the Balance of Payments (BoP) deviates from its long-run equilibrium, about 80% of the deviation is corrected within one year. The high magnitude and significance of this coefficient confirm a strong long-run relationship among the variables.

5.0 Conclusion and Recommendations

5.1 Conclusion

This study investigated how remittances and exchange rate fluctuation have impacted Nigeria balance of payments BoP stability. The study provides strong evidence that remittances serve a critical source of foreign exchange, contributing positively to economic growth, foreign reserve accumulation and consumption smoothening. The paper also concludes that relationship between exchange rate volatility and balance of payment further underscore the complexity of Nigeria's external sector dynamics.

5.2 Policy Recommendations

The Central Bank of Nigeria (CBN) should implement policies to reduce excessive exchange rate volatility, such as a managed float exchange rate system, to maintain BoP stability. Additionally, expanding the foreign exchange reserve base through improved export performance and effective remittance utilization can enhance Nigeria's ability to respond to exchange rate shocks.

Nigeria should improve trade and balance of payments by diversifying its export base, promoting non-oil exports and value-added production in agriculture and manufacturing, implementing import substitution policies, and strengthening regional and international trade agreements. These measures can reduce pressure on the foreign exchange market and reduce vulnerability to external shocks.

The Monetary Approach to the Balance of Payments (MABP) suggests that excessive money supply growth can cause imbalances. The Central Bank should maintain a stable monetary policy to control inflation and support economic growth. Fiscal policies should reduce external borrowing and prioritize foreign direct investment and domestic revenue mobilization for development projects.

To promote macroeconomic stability, policies should encourage productive remittance use, such as investing in human capital development, entrepreneurship, and SMEs, and implement targeted social programs.

Nigeria should implement stronger anti-money laundering and counter-terrorism financing measures to regulate remittance flows and prevent illicit activities. Enhancing diaspora engagement policies and strengthening foreign exchange management institutions can boost remittance inflows and investment participation, while ensuring a stable and resilient external sector.

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