THE INFLUENCE OF FISCAL AND MONETARY POLICIES ON EXCHANGE RATE DYNAMICS IN NIGERIA

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ABSTRACT

This paper examines how fiscal and monetary policies impact the dynamics of the exchange rates in Nigeria using annual time-series data for the years 2000-2022 as available in the World Bank, World Development Indicators. The research considers government expenditure, government revenue, real interest rate and broad money supply as independent variables and uses Autoregressive Distributed Lag (ARDL) method and Granger causality analysis in order to examine how each variable affects the exchange rate movements with GDP growth and inflation as control variables. The findings indicate that the expansionary fiscal spending leads to short run artificially reduced naira to depreciation with an exchanging effect of government revenue. Turning to the monetary aspect, when the real interest rate goes up, money and money stock concepts on the currency appreciation are coupled, but broad money supply expansion is coupled with depreciation. Independence, or correlation through Granger causality tests indicates that changes in pride of exchange rates have a pronounced effect in fiscal adjustment and inflation has a strong effect on interest rate adjustments which denotes the interdependence between monetary policies and price stability. Such results highlight the moderated yet challenging interrelationships between fiscal and monetary tools in determining the exchange rate behaviour in Nigeria. The research concludes that a joint fiscal and monetary policy interventions are the key to attaining an exchange rate stability and sustainable GDP growth. Some of the policy recommendations are to increase fiscal-monetary coordination, quantitative easing fiscal policy by using counter cycles, fiscal policy monetary discipline through a balanced credit growth, mobilizing adaptive data-based models and diversifying the economy in order to expose external weaknesses. The combination of empirical data and theoretical outputs facilitates the study in contributing to knowledge on the management of an exchange rate in a resource-dependent economy and gives practical measures that would enhance the macroeconomic resiliencies in Nigeria.

KEYWORDS: *Exchange rate dynamics, fiscal policy, monetary policy, ARDL model, Nigeria.*

INTRODUCTION

Monetary and fiscal policies are essential instruments to attain macroeconomic stability and have played a significant role in affecting the economy of Nigeria (Agbonkhese and Oligbi, 2020; Tule,

Onipede and Ebuh, 2020). The three tools that are used by the Central Bank of Nigeria (CBN) to regulate liquidity, keep the value of the naira, and have an impact on the basis of inflation and economic growth are open market operations (OMO), the Monetary Policy Rate (MPR), and the Cash Reserves ENUM (osakwe, Udoye, and Akuna, 2022). Fiscal policy, which is undertaken by the federal government, uses public expenditure, taxation and management of debt to speed up growth and stability.

Nigeria has now shifted its foreign exchange controls policies to liberal policies, in the sense that their financial field covers a managed float exchange rate regime with multiple exchange rate windows. Although this is pursued by the need to provide stability, it has gone about it in a manner that introduces distortions, fostered arbitrage and detailed the implementation of policies. The current issues were

observed in the 2016 recession caused by the sudden collapse in oil prices and consequently resulted in the contraction of GDP, the peak of inflation (18.7), and dire currency depreciation (Gloria & Blessing, 2022; Agri, Mailafia and Umejiaku, 2017). A volatile exchange rate is always a sensitive issue in an import driven economy that will influence the confidence of investors, inflation rate and cost of goods and services.

Both fiscal and monetary authorities have come up with their own policies and regulated the Monetary Policy rate (MPR) that governs the government spending, and the interventions in the forex markets in order to stabilize the naira. Nevertheless, Nigeria is greatly exposed to these external shocks, including oil price variability on the global scale, financial crises, and the COVID-19 pandemic that increase volatility (Beckman, Czudaj, and Arora, 2020). It is therefore necessary to maintain macroeconomic stability with a carefully coordinated policy action and the protection against economic shocks through diversification of the economy.

STATEMENT OF THE PROBLEM

Despite of the implementation of tough policy rates, the volatility of the exchange rate is still destroying the confidence of the investors and makes it difficult to plan the economy on long term basis (Olujobi, 2022). The reality of the naira remaining unstable due to regular crises around the world discourages foreign investment, promotes inflation and lends further pressure on using fiscal management. The current literature review has focused most of its work on fiscal and monetary policy individually (Frenkel, 2019; Ferrari, Kearns, and Schrimpf, 2021; Effiong et al., 2023), but little has been done to determine their interactions, especially when considering them in the environment of different exchange rate regimes. Additionally, attracting the arbitrage, speculation, and inefficiency in policy implementation in Nigeria back up on the multiple exchange rate system, the economy, which is largely dependent on oil export, is prone to external price shocks. Such interactions highlight the appealing nature of collective evaluation of fiscal- monetary interactions and its consequences on stability of the exchange rate.

JUSTIFICATION FOR THE STUDY

Based on the Mundell-Fleming obtuse, which diagrammatizes all relative efficacy of both monetary and fiscal policies under various exchange rate system, in this study the researcher appraises the Nigeria policy combination as it is under the system of the managed float. Specifically, the model is relevant when dealing with a small, open, and import-dependent economy and hence proves to be an appropriate framework to discuss the volatility of the naira. In order to present a complementary view, the Purchasing Power Parity (PPP) theory is used providing information about long term currency value.

Collectively, these theoretical lenses bridge a serious research gap related to impact of monetary policy instruments, that is, broad money supply and real interest rates, and fiscal policies, namely state expenditure and state revenue on the dynamics of the exchange rates.

Besides that, points, GDP growth and inflation are also added as control variables to reflect greater macroeconomic states. Research applies the data on a yearly basis since 2000-2022 published in World Development Indicators (WDI) and Central Bank of Nigeria Statistical Bulletin. Advocating the ARDL approach, it explores both short- and long-term associations, and an adequate strengthening of the findings is provided by post-estimation diagnostics. The findings will offer evidence-based practice to assist the policymakers in devising unified strategies that can help to achieve a high level of exchange rate stability and economic resilience, in general.

LITERATURE REVIEW

Review of Relevant Theories

The Purchasing Power Parity (PPP) theory: The idea of purchasing Power Parity (PPP), first proposed by Gustav Cassel in the early twentieth century, is that in the long run the exchange rates self-correct to match the price of a representative basket of goods across nations when they are expressed in terms of a common currency. The theory is based on the law of one price that states that, under no transportation cost and trade barrier, the same commodity should fetch identical prices in various countries. There are usually two forms PPP can be. Absolute PPP postulates that prices in the various countries are supposed to be equalized when they are exchanged to a common currency whereas the relative PPP considers the rate of change of the prices, which is supposed to indicate the movement of the exchange rate as an indication of the difference in the rate of inflation among the countries.

PPP can be especially applied in the Nigerian situation where the situation of continuous inflation is caused by the fiscal and monetary compression. It offers the prism to analyze the mechanisms of transformation of inflationary forces (driven by government spending, government tax revenues, changes in the interest rate, and the money supply) into the variability of exchange rates. Through the same, PPP provides information on long-term changes in the value of naira. There are, however, considerable weaknesses of the theory. It lets other things being equal, and by assumption, trade would be between features where the transport cost is zero and the product

cannot be traded between countries (and where no merchandise exists) trade restrictions never exist in practice. In addition, PPP is better applied in long-run analysis and is commonly not suitable in capturing short-run exchange rate volatility due to speculative dynamics, market failure and external shocks.

Mundell-Fleming Model

The Mundell-Fleming model (named after Robert Mundell and Marcus Fleming), an expansion of the IS-LM model designed in the 1960s to an open economy by adding the balance of payment. The model presupposes complete mobility of capital and the analysis of the impact of fiscal and monetary policies within other exchange rate regimes. It shows that the monetary policy is more efficient under a floating exchange rate because, variations in interest rates with capital flows affect exchange rates and aggregate demand. On the other hand, fiscal policy will perform better according to a regime of fixed exchange rate since government expenditure will have a direct relationship on the national income with no currency effects.

The model is especially applicable to the case of Nigeria where managed float system coexists with several exchange rate mechanisms. Such a complication implies that the interplay between fiscal and monetary policies is the starting point of the outcome of exchange rates. By using the Mundell-Fleming framework, this paper discusses the impact of a manipulation in terms of government expenditure, taxation, and interest rates on exchange rate movement, capital flows, and macroeconomic stability in general. The model is, however, limited. Its dependence on perfect capital mobility assumption frequently does not meet the reality because capital controls and market frictions in the developing worlds exist. Moreover, it makes the foreign financial markets simpler as it puts much emphasis on the fiscal and monetary variables, downplaying the role of the speculative, investors and geopolitical risks.

Finding Relations between PPP and the Mundell-Fleming Model and the Study.

The PPP theory is appealing to the research in conjunction with the Mundel-Fleming model as the theory introduces a balanced aspect of exchange rate determination taking a supplementary approach. The Mundell Fleming model lays emphasis on immediate impact of fiscal and monetary policies in various exchange rate regimes which is quite suitable in case of the Nigeria nation with an open economy which is import based as the collapse of the exchange rate are characterized by a trade-off in policies. PPP on the other hand can offer the country a reference point in the long run to gauge the fundamentals of the naira against other major world currencies, and thus determine whether or not the exchange rate is reflecting its underlying economic fundamentals.

When these frameworks are combined, the study forms a detailed procedure of conducting an analysis of interaction of fiscal and monetary policies and interaction of these policies in terms of regime of exchange rate stability. The Mundell Fleming model is appropriate to provide an evaluation on immediate effects of the policies in a manager floating regime in Nigeria with the PPP to determine the long-run equilibrium regime condition guided by inflation and differential prices level. This twin frame is notably useful in regards to Nigeria where the volatility in exchange

rates networks risks the investor confidence, macroeconomic stability, and a course of development in the long-term planning. Finally, the synthesis of these theories allows the study to yield actionable policy implications that are directed to bring about stability of exchange rates, increase resilience and improve general economic performance.

Methodological Review

Ogunjimi (2020) studied how exchange rate dynamics can influence the output of the sector in Nigeria in the period 1981-2016. Based on the study, annual CBN Statistical Bulletin data was used to determine the ARDL and NARDL regimes to be able to analyze both symmetric and asymmetric impacts on agricultural, industrial and services sectors. In the same manner, Anifowose (2020) used Vector Autoregression (VAR) to determine how Nigeria and South Africa exchange rates would respond to a policy change in 2005, and emphasized the exchange rate changes variability made by the two countries in reaction to inflation relative to the monetary policy.

In the case of the study by Henry and Sabo, it is necessary to use ARDL methods to predict how the monetary policy affected the inflation rate in Nigeria during the 1985-2019 timeframe (Henry and Sabo 2020). They used annual rate data in time series, monetary policy rate, foreign exchange rate, and broad money supply, as their study considered. In their analogy of fiscal dominance and exchange rate stability in Nigeria (1981Q1- 2018Q4), Ayinde and Bankole used Structural Vector Autoregression (SVAR), ARDL and Granger causality tests to examine the hypothesis of fiscal dominance and the mechanisms of transmitting the shocks.

Using Ordinary Least Squares (OLS) and co-integration tests, Idris (2019) analyzed the same relative effects of fiscal and monetary policy on the growth of output in Nigeria over the period of sixteen years 1980 to 2017. Olakojo, Onanuga, and Onanuga (2021) in contrast studied the cycle of growth and the importance of policy in economic recovery using the plucking model of Friedman, Markov-switching, and threshold regression with the help of quarterly data (2010Q1-2019Q1).

Ibeto, Ezenekwe, Nzeribe and Okeyika (2023) analyzed the determinants of exchange rate on different sub-regions between the year 1986-2020 by applying the ARDL and structural variable regression analysis on the secondary data. Akpoghelie (2022) studied the effects of fiscal and monetary policies on the industrial sector in 1986-2021 formulated with ARDL Bounds Testing, unit root and Johansen co-integration tests.

In Nigeria (1981-2018), Arikekpar (2020) tested the relationship between the monetary policy shocks and the exchange rate volatility employing the use of the Vector Error Correction Mechanism (VECM) and diagnostic tests. Lastly, Iliyasu, Ibrahim, and Musa (2024) used Autoregressive Conditional Heteroscedasticity (ARCH), the bootstrap bounds testing and the Granger causality, in a VECM framework to examine the impact of monetary policy on the exchange rate volatility between 1987 and 2023 in Nigeria.

Empirical Review

Ogunjimi (2020) also established that the mortgage of the exchange rate affected the agricultural and services sectors positively and the industrial sector adversely, concluding that there was a necessity to manage the exchange rate better in order to attract investment. According to Anifowose (2020), the effect of the monetary policy shocks on the exchange rates in both North Asia and South Africa was quite notable and had been observed to drive the variability of exchange rate, although findings were not in line with the theory. The research indicated that monetary policy in Nigeria was contractionary, hence the requirement of consistent policies implementation as it propagated currency devaluation.

Henry and Sabo (2020) found out that the monetary policy rate and exchange rate had a negative impact on inflation, and the broad money supply had a positive impact. They advocated a stable exchange rate and productive investment as ways of putting a rein on inflation. On a similar note, Ayinde and Bankole (2021) found that there is a bi-causal relationship between the budget deficits and exchange rate variations, with public debt not Granger-causing the exchange rate subsequent changes. According to their SVAR results, financial openness shocks caused changes in their exchange rates that supports the relevance of fiscal balance.

Idris (2019) indicated that fiscal and monetary policy response yielded great positive impacts on the growth of output, albeit the monetary policy was the more effective. The article focused on fiscal discipline as a requirement towards effective policy. Olakojo, Onanuga, and Onanuga (2021) pointed at pro-cyclicality in the monetary and fiscal policies and the coordinated interventions that should have been used, emphasizing on the relevance of the Treasury Bill rate in fueling the growth.

Ibeto et al. demonstrated that determinants of exchange rate worked differently in terms of variation among the sub-regimes and relative real income, inflation and openness to trade were significant. They had suggested trade and export reforms to stabilize exchange rate. Akpoghelie (2022) concluded that both fiscal and monetary policies had a strong effect and impact on the reversibility of industrial output in the short and long term, and appropriate policy mix is necessary, which can stimulate industrial development.

Arikekpar (2020) found that credit reserve requirement had an undesirable impact on the exchange rates, whereas broad money supply, interest rates and inflations had positive impacts. The promoted idea was to stabilize exchange rates by increasing reserve requirements and interest rates in the study. In the same way, Iliyasu, Ibrahim and Musa (2024) reported that the fluctuation of the exchange rate was caused constitutively by alterations in the supply of money and previous variations. They prescribed the use of coordinated fiscal and monetary instruments to touch volatility.

Gap in the Literature

The analyzed literature points out a number of methodological and empirical gaps. One, many of the literature discuss fiscal and monetary policies separately in nature without doing any thorough studies on the joint impacts of the two policies on exchange rates. Second, the effectiveness of the policy in various regimes of exchange rate regimes is not fully studied, even though Nigeria has had politics of switching.

Third, despite the presence of multiple studies spanning longer durations, many of them do not include the latest information, especially the information since the COVID-19 shocks that have transformed the overall and national financial realities.

Besides this, some limited sectoral research is available but ratifications need to be conducted at more finer details in order to produce granular policy implications applicable to specific sectors. Further under-investigated are the non-linear and asymmetric responses to combined fiscal and monetary policies, and most studies pursue linear methods. Also, little human energy has been devoted to the impact of particular policy tools (e.g., credit controls, tax encouragement) vis-a vis more general policies in aggregate. Filling these gaps would lend greater depth to the aim of understanding the interaction of fiscal and monetary policy in formulating the exchange rate behavior of Nigeria, particularly given its persistent volatility and vulnerability threshold to the economy.

METHODOLOGY

The research design examined the effect of fiscal and monetary policies on the exchange rate dynamics in Nigeria on the use of secondary data collected in 2000-2022 through the 2023 World Bank-World Development Indicators. The monetary and fiscal policies are represented by the real interest rate (RINTR) and a broad money supply (BMS) as the proxies of fiscal policy whereas total government expenditure (TGEXP) and total government revenue (TGR) represent monetary policy. The dependent variable is the exchange rate (EXR), and the control variables are the GDP growth (GDPG) and the inflation rate (INF).

Three hypotheses are tested:

1. Fiscal policy has no significant impact on the exchange rate in Nigeria.
2. Monetary policy has no significant impact on the exchange rate in Nigeria.
3. There is no significant causal relationship among fiscal policy, monetary policy, and the exchange rate in Nigeria.

The analysis is anchored on the **Mundell–Fleming model**, which predicts fiscal policy effectiveness under fixed exchange rates and monetary policy effectiveness under floating rates. Based on this framework, two regression models are specified:

$$EXR_t = \beta_0 + \beta_1 TGEXP_t + \beta_2 TGR_t + \beta_3 INF_t + \beta_4 GDP_{g_t} \ldots\ldots\ldots\ldots (1)$$

$$EXR_t = \beta_0 + \beta_1 RINTR_t + \beta_2 BMS_t + \beta_3 INF_t + \beta_4 GDP_{g_t} \ldots\ldots\ldots\ldots (2)$$

We can further specify the models in econometric form as written below:

$$EXR_t = \beta_0 + \beta_1 TGEXP_t + \beta_2 TGR_t + \beta_3 INF_t + \beta_4 GDP_{g_t} + \mu_t \ldots\ldots\ldots\ldots (3)$$

$$EXR_t = \beta_0 + \beta_1 RINTR_t + \beta_2 BMS_t + \beta_3 INF_t + \beta_4 GDP_{g_t} + \mu_t \ldots\ldots\ldots\ldots (4)$$

Where:
EXR_t =Exchange rate at time t
$TGEXP_t$ = Total government expenditure
TGR_t = Total government revenue
$RINTR_t$ = Real interest rate
BMS_t = Broad money supply
INF_t = inflation rate (CPI)
GDP_{g_t} = GDP growth rate
μ_t = Stochastic variable
β_0 = Constant term of the models
$\beta_1, \beta_2, \beta_3 \; and \; \beta_4$ = Parameters of the variables

RESULTS AND DISCUSSIONS

Descriptive statistics

Figure 1 represents a diagrammatic illustration of the data for total government expenditure (TGEXP), total government revenue (TGR), real interest rate (RINTR), broad money supply (BMS), exchange rate (EXR), GDP growth rate (GDPG), and inflation rate (INF) over 23 observations.

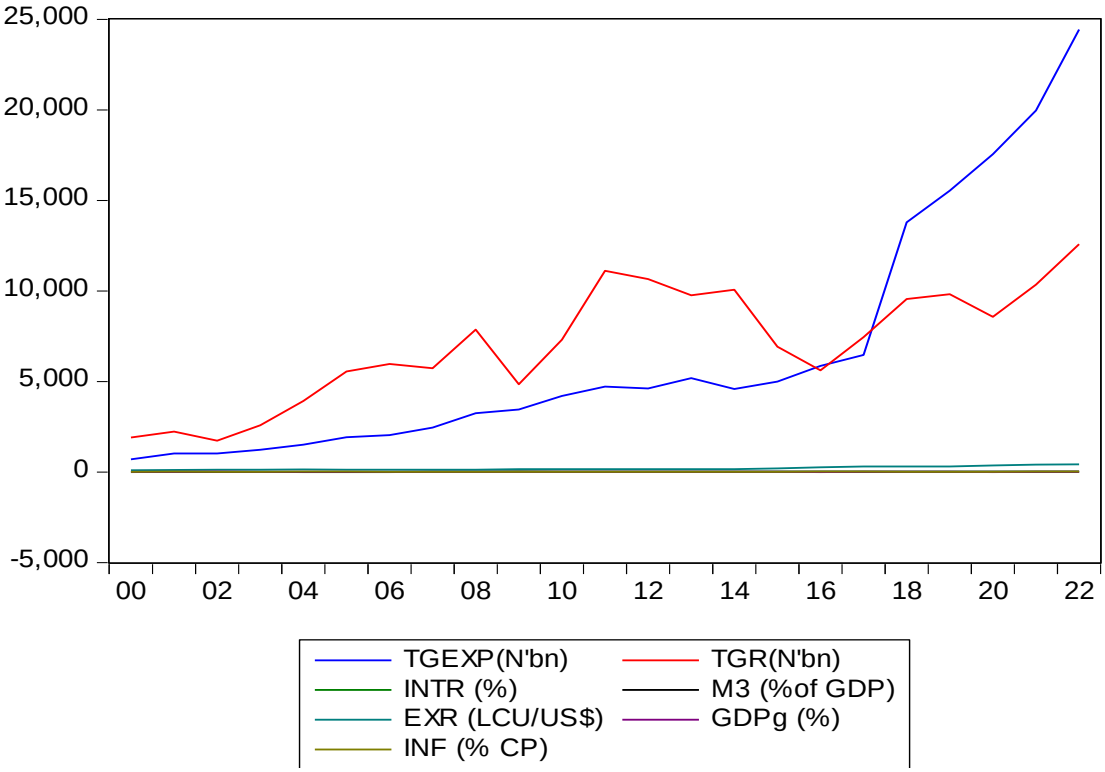

Fig 1

The mean values indicate that TGEXP and TGR are substantial, with TGR slightly higher. RINTR averages around 5.56%, BMS around 20.75, EXR about 199, GDPG about 5.15%, and INF about 12.63%. The median values are close to the means, suggesting a relatively symmetrical distribution for most variables. However, the maximum and minimum values show significant variation, particularly in TGEXP, TGR, and EXR. The standard deviations indicate high variability, especially in TGEXP and EXR. Skewness values reveal that TGEXP and EXR distributions are positively skewed, while TGR and BMS are negatively skewed. Kurtosis values suggest that GDPG is leptokurtic, indicating a peak distribution, while other variables are more platykurtic. The Jarque-Bera test statistics show that most variables are normally distributed, except TGEXP, which has a probability value below 0.05, indicating non-normality.

Table 1

Variable	ADF Test at Level (t-stat / Prob)	Critical Values	Order of Integration	ADF Test at 1st Diff. (t-stat / Prob)	Critical Values	Order of Integration
TGEXP	0.69526 (0.9992)	-4.4407*, -3.6329**, -3.2547***	Non-stationary	-4.18550 (0.0176)	-4.4679*, 3.6449**, 3.2615***	Stationary
TGR	-2.3308 (0.4018)	-4.4407*, -3.6329**, -3.2547***	Non-stationary	-4.18555 (0.0176)	-4.4679*, -3.6449**, -3.2615***	Stationary

Variable	ADF Test at Level (t-stat / Prob)	Critical Values	Order of Integration	ADF Test at 1st Diff. (t-stat / Prob)	Critical Values	Order of Integration
RINTR	-3.3384 (0.0887)	-4.4983*, -3.6584**, -3.2690***	Non-stationary	-4.2426 (0.0174)	-4.5326*, -3.6736**, -3.2774***	Stationary
BMS	-1.9879 (0.5756)	-4.4407*, -3.6329**, -3.2547***	Non-stationary	-3.8897 (0.0314)	-4.4679*, -3.6449**, -3.2615***	Stationary
EXR	-0.0976 (0.9909)	-4.4983*, -3.6584**, -3.2690***	Non-stationary	-4.5220 (0.0095)	-4.4983*, -3.6584**, -3.2690***	Stationary
GDPg	-4.4532 (0.0097)	-4.4407*, -3.6329**, -3.2547***	Stationary	-6.3885 (0.0002)	-4.4679*, -3.6449**, -3.2615***	Stationary
INF	-3.4180 (0.0746)	-4.4407*, -3.6329**, -3.2547***	Non-stationary	-4.6418 (0.0081)	-4.5326*, -3.6736**, -3.2774***	Stationary

Variable	Phillip-Perron Test at Level (t-stat / Prob)	Critical Values	Order of Integration	Phillip-Perron Test at 1st Diff. (t-stat / Prob)	Critical Values	Order of Integration
TGEXP	0.8480 (0.9995)	-4.4407*, -3.6329**, -3.2547***	Non-stationary	-4.1855 (0.0176)	-4.4679*, -3.6449**, -3.2615***	Stationary
TGR	-2.3464 (0.3944)	-4.4407*, -3.6329**, -3.2547***	Non-stationary	-4.3679 (0.0122)	-4.4679*, -3.6449**, -3.2615***	Stationary
RINTR	-4.0899 (0.0204)	-4.4407*, -3.6329**, -3.2547***	Stationary	-8.4635 (0.0000)	-4.4679*, -3.6449**, -3.2615***	Stationary
BMS	-1.9879 (0.5756)	-4.4407*, -3.6329**, -3.2547***	Non-stationary	-3.8316 (0.0351)	-4.4679*, -3.6449**, -3.2615***	Stationary
EXR	0.1076 (0.9951)	-4.4407*, -3.6329**, -3.2547***	Non-stationary	-3.7283 (0.0427)	-4.4679*, -3.6449**, -3.2615***	Stationary
GDPg	-4.4889 (0.0091)	-4.4407*, -3.6329**, -3.2547***	Stationary	-8.2949 (0.0000)	-4.4679*, -3.6449**, -3.2615***	Stationary

INF	-3.5398 (0.0596)	-4.4407*, -3.6329**, -3.2547***	Non-stationary	-17.7212 (0.0000)	-4.4679*, -3.6449**, -3.2615***	Stationary

Values with (@), (*), (**), (***) indicates probability value, 1%, 5% and 10% significant levels respectively

From the Table 1 above, the unit root test results indicate that most variables are non-stationary at their levels but become stationary after first differencing, suggesting they are integrated of order one, I (1). For instance, total government expenditure (TGEXP), total government revenue (TGR), real interest rate (RINTR), broad money supply (BMS), exchange rate (EXR), and inflation rate (INF) were all non-stationary at level but stationary at first difference. This implies that shocks to these variables have persistent effects, making them unpredictable in their raw form, but their changes are more stable and predictable. The GDP growth rate (GDPg) is an exception, being stationary at both level and first difference, indicating a more stable economic measure.

Table 2
Co-integration Test

Dependent	tau-statistic	Prob.*	z-statistic	Prob.*
EXR	-4.427353	0.3280	-20.75537	0.3437
TGEXP	-3.667413	0.6235	-17.24475	0.6141
TGR	-4.121863	0.4388	-16.78397	0.6492
RINTR	-7.832820	0.0026	-31.20439	0.0044
BMS	-4.428506	0.3276	-20.70392	0.3474
GDPG	-5.723570	0.0660	-26.34352	0.0703
INF	-5.575164	0.0813	-25.74538	0.0871

***MacKinnon (1996) p-values.**
Warning: p-values may not be accurate for fewer than 25 observations.

Intermediate Results:

	EXR	TGEXP	TGR	RINTR	BMS	GDPG	INF
Rho S.E.	0.213090	0.213734	0.185088	0.181082	0.212507	0.209211	0.209903
Residual variance	466.6885	2471682.	2069503.	11.00339	5.421095	5.472598	8.899385
Long-run residual variance	466.6885	2471682.	2069503.	11.00339	5.421095	5.472598	8.899385
Number of lags	0	0	0	0	0	0	0
Number of observations	22	22	22	22	22	22	22
Number of stochastic trends**	7	7	7	7	7	7	7

****Number of stochastic trends in asymptotic distribution**

Table 2 summarizes co-integration results and shows that exchange rate (EXR), government expenditure (TGEXP), government revenue (TGR), real interest rate (RINTR), broad money supply (BMS), GDP growth rate (GDPG) and inflation (INF) have no significant relationship in the long-run. The tau-statistic and z-values are generally not significant, and the Jennifer values exceeding the significance of 0.05 support the fact that there is no co-integration. Even though

RINTR demonstrates the most promising correlation (tau p = 0.0026; z p = 0.0044), the general findings indicate that these macroeconomic variables do not co-move in the long-run. It means that monetary and fiscal policy can have uncontrollable and unrelated long-term effects on the economy of Nigeria.

Discussion of Findings

The ARDL estimation makes it clear that fiscal policy variables do play a major role in the exchange rate dynamics:

Government expenditure (TGEXP): The current expenditure shows a negative though inconsequential effect and values under lag indicate that fiscal expansions weaken the value of the naira in the short term but restore its value in the long term. This is compatible with Ayinde and Bankole (2021) who highlighted the bi-causal relationship between the exchange rates and the budget deficits.

Government revenue (TGR): Major change in revenue can substantially impact the exchange rate and this supports the aspect of fiscal balance in maintaining stability of the currency.

On the monetary policy side:
Real interest rate (RINTR): When the interest rates are high the naira will appreciate due to influx of foreign capital.

Broad money supply (BMS): Increase in the money supply reduces the value of naira in line with Henry and Sabo (2020).

The results also align with the results of Anifowose (2020), who demonstrated that monetary shocks people greatly influence variable exchange rates.

The results of the Granger causality can also contribute to some more information:

There are movements in the exchange rates (EXR) which are cause and effect to TGEXP and TGR meaning that fiscal policy is implemented mainly in response to shifts in the exchange rates and not proactively.

Granger with inflation (INF): The Granger of inflation without inflationary pressure is the main determinant of the monetary policy instruments because Arikekpar (2020) and Iliyasu et al. (2024) write that they have a direct impact on monetary policy.

GDP growth (GDPG) has a huge impact on EXR in line with the conclusion of Olakojo et al. (2021), who observed pro-cyclical bias of fiscal and monetary policies in Nigeria.

CONCLUSION

This paper explored ARDL and Granger causality applications to explain the fiscal and monetary condition on Nigeria exchange rate movement during the period 2000-2022. The results highlight that:

1. **Fiscal policy**: Expenditure tends to undermine exchange rate but eventually stabilizes, whereas changes in revenue have great impact on the exchange rates.

2. **Interest rate**: Increment in the level of interest rate helps to appreciate the naira whereas increment in the level of money supply depreciates it.

3. **Strict cause and effect**: Fiscal response by the government is driven by fluctuations of the exchange rates and inflation dictates the interest rate response making the two aspects of the policy reactive.

In general, the paper concludes with the finding that NIGA needs a policy-combination approach to its exchange rate management, in which fiscal discipline should be complemented by monetary tightening to attain both unitary stability and sustainability in its currency and economy.

Policy Recommendations

Strengthening Fiscal Discipline

The government should adopt prudent expenditure management, curtail unsustainable deficits, and prioritize investments in infrastructure, education, and social protection that promote long-term growth without aggravating inflationary pressures (World Bank, 2025; Reuters, 2025a).

Stabilizing Monetary Conditions

The Central Bank of Nigeria should maintain interest rates at levels that balance investment attraction with inflation control, while closely monitoring money supply growth to mitigate exchange rate volatility (IMF, 2025; World Bank, 2025).

Enhancing Policy Coordination

Effective coordination between fiscal and monetary authorities is essential to ensure policy coherence. Aligning fiscal measures with monetary objectives will reduce contradictions and reinforce exchange rate stability (IMF, 2025; World Bank, 2025).

Adopting Evidence-Based Adjustments

Policy should be grounded in continuous analysis of macroeconomic indicators, enabling swift and adaptive responses to evolving conditions. Such evidence-based adjustments will enhance resilience and safeguard macroeconomic stability (IMF, 2025; Reuters, 2025b).

CONCLUSION

The implementation of these measures will improve Nigeria's exchange rate stability, attract investment, and promote sustainable and inclusive economic growth.

REFERENCES:

Aigbovo, O., & Izekor, A. O. (2022). Testing arbitrage opportunities: The case of the Nigerian foreign exchange market. *Journal of Accountancy and Finance, 9*(2), 133–147.

Aigheyisi, O. (2021). Factors explaining exchange rate volatility in Nigeria: Theory and empirical evidence. *SSRN Working Paper*. https://doi.org/10.2139/ssrn.3842230

Clement, D. M. (2021). The impacts of monetary policy on the performance of deposit money banks (DMBs) in Nigeria. *Unpublished manuscript*.

Dike, B. I. (2018). *The impact of exchange rate on the Nigerian economic growth* (Doctoral dissertation, Godfrey Okoye University Ugwuomu-Nike, Enugu).

Falade, O. E., & Folorunso, B. A. (2015). Fiscal and monetary policy instruments and economic growth sustainability in Nigeria. *American Journal of Economics, 5*(6), 587–594.

Ikechi, K. S., & Nwadiubu, A. (2020). Exchange rate volatility and international trade in Nigeria. *International Journal of Management Science and Business Administration, 6*(5), 56–72.

Ikein, A. A. (2017). Nigeria oil & external exposure: The crude gains and crude pains of crude export dependence economy. *The Business & Management Review, 8*(4), 396.

IMF. (2025, July 1). *IMF staff completes 2025 Article IV mission to Nigeria*. International Monetary Fund. https://www.imf.org/en/News/Articles/2025/07/01/pr-25231-nigeria-imf-staff-completes-2025-article-iv-mission

Itodo, I. A., Ichoku, H. E., & Olushola, O. (2023). Foreign exchange pressure and foreign exchange intervention in Nigeria: A review of literature. *South Asian Journal of Social Studies and Economics, 20*(4), 14–24.

Kalu, K., & Mike, A. (2020). Exchange rates fluctuations and international trade in a mono-product economy: Nigeria's experience, 1986–2018. *South Asian Journal of Social Studies and Economics, 7*(2), 21–48.

Kpangbala, G. Y. (2023). The effect of inflation, exchange rate, and consumer prices on Nigeria's economy. *Unpublished manuscript*.

Kumeka, T. T., Falayi, O. R., Adedokun, A. J., & Adeyemi, F. O. (2023). Economic policy uncertainty and exchange market pressure in Nigeria: A quantile regression analysis. *International Journal of Sustainable Economy, 15*(2), 135–166.

Leo, J. G., & Abubakar, S. A. (2023). The impact of central bank's credits to the federal government on the effectiveness of open market operations in Nigeria. *Futurity Economics & Law, 3*(3), 237–261.

Loewald, C., Faulkner, D., & Makrelov, K. (2020). *Time consistency and economic growth: A case study of South African macroeconomic policy* (No. 842). Economic Research Southern Africa.

Mafiejor, M. B. (2021). Structure of the Nigeria money market: Purpose & structure, instruments, interest rates & yields. *Unpublished manuscript*.

Mesagan, E. P., Alimi, O. Y., & Yusuf, I. A. (2018). Macroeconomic implications of exchange rate depreciation: The Nigerian experience. *Managing Global Transitions, 16*(3), 231–248.

Reuters. (2025a, May 12). *Nigeria's economy grows strongly amid high inflation, World Bank says*. Reuters. https://www.reuters.com/world/africa/nigerias-economy-grows-strongly-amid-high inflation-world-bank-says-2025-05-12

Reuters. (2025b, April 9). *Nigeria posts $6.83 billion payments surplus amid reforms, rising confidence*. Reuters. https://www.reuters.com/world/africa/nigeria-posts-683-billion-balance-payments-surplus-2024-central-bank-says-2025-04-09

Takon, S. M., & Ita, R. I. (2020). Impact of monetary policy on price stability in Nigeria. *International Journal of Banking and Finance Research, 6*(2), 1–9.

World Bank. (2025, May). *Nigeria development update: Turning the corner (NDU May 2025)*. The World Bank. https://www.worldbank.org/en/country/nigeria/publication/nigeria-development-update-ndu

Zakari, M. (2017). The impact of exchange rate fluctuations on foreign direct investment in Nigeria. *Journal of Finance and Accounting, 5*(4), 165–170.