Assessment of impact of Monetary and Fiscal Policy on Investments in Nigeria

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ABSTRACT

This study assessed the interference of monetary and fiscal policy on investments in Nigeria by applying Error Correction Model using quarterly data from 2010Q1 to 2022Q4. The results show that exchange rate, government expenditure, money supply monetary policy rate, and public debt have both short-run and long-run relationships with investment in Nigeria, while government revenue is probably due to multiple taxes which exist in the economy only has a negative and insignificant relationship with investment in Nigeria, particularly in long run. Based on the above findings, the paper recommends that the monetary authorities should find and adopt an optimum monetary policy rate that would be conducive and encourage investment in the country. The fiscal authority should review the multiple taxes charged on businesses to encourage more investment into the economy.

Keywords: Investment, government revenue, government expenditure, monetary policy rate, money supply, exchange rate public debt, and ARDL

INTRODUCTION

Globally, monetary, and fiscal policies remained the most crucial tools for macroeconomic management to achieve price stability, full employment levels, and overall growth in an economy. The monetary authority of a country uses its monetary policy framework to manage the value, cost, and supply of money to achieve its targeted objectives, through a single-digit percent of inflation rate via a contractionary monetary policy. On this note, the Central Bank of Nigeria (CBN) uses its monetary policy rate (MPR) to influence the market interest rates, while the open market operations are used to directly alter the money supply, Ezeibekwe, (2020) while fiscal policy relies on government taxes and expenditures, including borrowings to determine aggregate demand in the economy. There has been no consensus in the literature as to which of them is superior to the other. While Keynesians consider fiscal policy as more potent than monetary policy, the monetarists championed by Milton hold a contrary viewpoint (Folawewo & Oshinubi, 2006; Oboh, 2017). It is worthy of note that a poor understanding of the workings of the interferences between the duo policies on their dependence, independence, and interdependencies could hinder the attainment of economic goals and targets.

More so, in a poorly co-coordinated policies environment, fiscal policies tend to affect the success of monetary policies in many ways, such as eroding impact on the general confidence and efficacy of monetary policy, through its short-run effects on aggregate demand, and modifying the long-term conditions for economic growth and low inflation. On the other hand, monetary policies may be accommodative or counteractive to fiscal policies, depending on the prevailing political and economic paradigms, Chibi, Benbouziane, and Chekouri (2019). For instance, at the end of the Nigerian Civil War in 1970, several monetary and fiscal policy measures were employed to reconstruct and reintegrate the economy and put it on a sustainable growth trajectory. The effects of these policies have impacted various elements of economic agents (Chuku, 2010). The interplay between monetary and fiscal policies act on investment which plays a key role in increasing capital formation and brings about long-run economic growth. Through the control of monetary and fiscal

policy, the quantity of money, reserve money, and fiscal operations directly and indirectly, control the demand for money, money supply, or the availability of money and hence affect output and private sector investment.

Statistics have shown that the Nigerian economy has been observed as one of the most volatile economies in the world due to its high dependence on oil revenue, and economic instability is witnessed yearly through rising inflation, massive unemployment, low output, and dwindling foreign reserves that result in unstable exchange rates as characterized with continuous fall in oil prices that has translated to low investments in the country. For instance, the decisions on prices by the organization of petroleum exporting countries in the international oil market result in serious fluctuations in the foreign exchange with its multiplying effects on the economy. This has revealed the increasing trends in the average exchange rate of Naira to a Dollar in 2021, 2022, and 2023 to be ₦402. 58, ₦432.37, and ₦458.11, respectively. Also, the movements of the daily exchange rate between 381 and 605 at the official rate, while it ranges from ₦476.05 to about ₦780.00 at the Bureau de Change Markets in Nigeria (CBN, 2023).

Similarly, the inflationary figure assumed standpoints of 15.36 percent, 21.34 percent, and 21.91 percent in December 2021, 2022, and February 2023, respectively. These are in contrast with the previous year's values of 11.40 percent in 2019 and 13.25 percent in 2020. Furthermore, it is observed that the yearly increasing gap between the federal government budgeted revenue and their actual values call for concern. These could be traced to the ₦5.37 trillion budgeted revenue with an actual value of ₦3.78 trillion in 2020, ₦6.77 trillion targeted revenues resulted in a decline of ₦4.79 trillion in 2021. Also, the projected revenue of ₦9.01 trillion revealed an outcome of ₦4.86 trillion in 2022. These have resulted in widening fiscal deficits in the government's budgetary allocations as seen from 2020 to 2022 with, lesser deficit targets to actual deficits of ₦4.6 trillion to ₦5.9 trillion in 2020, ₦5.7 trillion to ₦6.9 trillion in 2021, and ₦5.2 trillion to ₦7.3 trillion in 2022, (consolidated financial report of the OAGF, 2020,2021, and 2022).

On the other hand, the inflow values of foreign direct investments in Nigeria revealed a peak of US8.84 billion in 2011 and declined to US2.31 billion in 2019, US2.39 billion in 2020, and rose to US3.31 billion in 2022. The Gross Domestic Investments in Nigeria in relation to the share of Gross Domestic Product have continued to decline from 29.4 percent in 2020 to 27 percent in 2021, and 25.5 percent in 2022. Owing to these unprecedented records, the correlation between investment and the duo policies is necessary based on the perception that investment is the most volatile component of aggregate demand. Hence, the objective of the study is to provide an assessment of the monetary and fiscal policy impacts on investments in Nigeria from 2010 to 2022.

Following the introductory section, the theoretical and empirical literature is presented in section two. The third section discussed the stylized facts and method of study. Section four dwells on the presentation and discussion of the results. The last part of the paper accommodates summaries of major findings, conclusions, and recommendations.

LITERATURE REVIEW

This section centres on the theoretical underpinning of this study. This study is hinged on the Keynesian and the Monetarists approach. According to Keynesian, government intervention can stabilize the economy *(*Sarwat, Mahmud, & Papageorgiou, 2014*)*. The school views a positive relationship between deficit financing and investment (Omitogun & Ayinla, 2007). This thought sees fiscal policy as a tool for overcoming fluctuations in the economy and regards deficit financing as a vital tool to achieve a level of aggregate demand consistent with a full employment level. The Keynesians are of the view that a free enterprise economy has weak self-regulatory powers and may readily settle into prolonged periods of heavy unemployment. More so, because of the restrictive practices of monopolies and the tendency of large corporations to avoid risks and adopt safe and cautious policies, the income growth rate will be low. The positive Keynesian schools of thought on the possible effect of fiscal deficits on economic activity had been challenged by the Neo-classical school of thought on the ground that the monetarist school ignores the significance of how fiscal deficits are financed. On the other hand, monetarists are of the view that the free-market economy has strong self-

regulating tendencies; if a satisfactory general climate is maintained, the economy will tend naturally toward full employment and a relatively stable price level. The monetarist believes that monetary policy has a greater impact on the economic phenomenon as a sharp change in the stock of money affects output and growth (Adefeso & Mobolaji, 2011). This implies that an increase in the money stock by the central bank tends to promote economic growth. Also, an increase in public spending would crowd out the private sector and outweigh any short-term benefits of an expansionary fiscal policy.

This section focusses on the existing empirical literature. Several research has been conducted on monetary and fiscal policy interaction with their relative effects on economic perspectives while revealing varying conclusions at different times. The following empirical studies and lots more are utilized to guide the direction of this study. Lucky and Uzah (2017) studied the monetary policy transmission mechanisms and domestic real investment in Nigeria from 1981 to 2015 using Vector Error correction model. It showed that the monetary policy transmission mechanism has a significant relationship with Nigeria's domestic real investment. Ezeibekwe (2020) on monetary policy and investment in Nigeria from 1981 to 2018. Using the VAR model, revealed that interest rates on investment depend on the level of the inflation rate. While the size of the effect of interest rates on investment gets weaker as the inflation rate increases suggesting that the monetary policy rate (MPR), which directly changes the interest rates are robust stabilization tool during periods of declining inflation rates but not relevant during periods of rising inflation rates.

Also, Chibi, Benbouziane, and Chekouri (2019) adopted both the forward and backward-looking Ricardian approaches to test for the prevalence of monetary and fiscal policy dominance Algeria from 1963 to 2017 with the aid of the VAR model. The result indicates that monetary and fiscal policies in Algeria have interacted in a counteractive manner for most of the sample period. Chigbu and Njoku (2013) investigated the impact of monetary and fiscal policy on Nigeria's economic growth from 1990 to 2010. It resolved that the adjustments of money and fiscal policies measure the level of economic growth in Nigeria was unstable over the years of study which revealed no long-run relationship. Conversely, the study further revealed that fiscal policy measures are more effective in gearing economic growth in Nigeria. Also, Chuku (2010) examined monetary and fiscal policy interaction in Nigeria from 1970 to 2008 using the VAR model to test for evidence of a non-Ricardian fiscal policy in Nigeria by applying a State-space model with Markov-switching to estimate the time-varying parameters of the interactions. The result suggest that the two policy regimes (counteractive and accommodative) have been weak strategic substitutes during the post-1970 (Civil War) period.

Other writers like Adedoyin, Somoye, Babajide, and Nwanji (2017) evaluated the effects of fiscal and monetary policy interactions on the stock market performance in Nigeria from 1985M1 to 2015M12 using the ARDL and EGARCH models. The study revealed that the interaction between monetary and fiscal policies influences stock market returns in Nigeria.

In studying the role of monetary and fiscal policies in industrial and agricultural development in Nigeria, Uduebo (1985) concluded that the monetary and fiscal policies had a favourable impact on industrial and agricultural development. Idris (2019) examined the relative impact of monetary and fiscal policy on output growth in a small open economy, in Nigeria from 1970 to 2017. The OLS show that monetary policy is more effective in Nigeria than fiscal policy. Bodurin (2016) investigated the impact of monetary and fiscal policy on Nigerian economic growth from 1981 to 2015. The VEC model found the unexpected shock on money supply, real effective exchange rate, and taxes to have a negative permanent effect on real GDP, while an unexpected shock on recurrent expenditure and capital expenditure to have a positive effect on real GDP.

In the same vein, Okonkwo, Egbulonu, and Mmaduabuchi (2015) on monetary policy in the manufacturing sector in Nigeria from 1981 to 2012. The ECM model reveals that money supply and credit to the private sector exert significant influence on manufacturing in Nigeria. Usman and Adegbite (2014) examine monetary policy and industrial growth in Nigeria from 1970 to 2010, using ordinary least squares. The result established that rediscount rate and deposits have a significant positive effect on industrial output, but treasury bills have a negative impact on industrial output.

Oketoyin, Ogbonna, and Uju (2018) evaluated the impact of government policy on price stability in Nigeria from 1990 to 2015. The ordinary least squares model of government revenue, government expenditure, CRR, MPR, and CPI shows that the combination of both monetary and fiscal instruments impacted on consumer price index in Nigeria and concludes that regardless of the mixed individual impacts of the variables; government policies were able to manage consumer price index to a considerable extent. Musa, Asare, and Gulumbe (2013) conduct a study on the effect of monetary and fiscal policy on price and output growth in Nigeria from 1970 to 2010. The VAR results suggest that the policy variables money supply and government revenue have a more positive impact on price and economic growth in Nigeria, specifically in the long run.

From the foregoing, it was observed that none of the studies take into cognizance the investment position resulting from the two policies' interferences, except for the studies of Lucky and Uzah (2017) and Ezeibekwe (2020) that utilized monetary policy on investments in Nigeria. The need for the inclusion of monetary policy for robust analysis becomes imperative. While the time series data shall be extended to 2022.

MATERIALS AND METHOD

The study used Quarterly data sourced Central Bank of Nigeria from 2010Q1-2022Q4. The data include money supply (broad money M2), exchange rate, and monetary policy rate were used as monetary policy variables. Data for government revenues, government expenditure, and total debt stock were used as fiscal policy variables. The composition of the model is the modification of Musa, Asare, and Gulumbe (2013). The inclusion of total debt stock as one of the fiscal variables, and the presence of investments position as the dependent variable is also a gap that needs to be filled with the aid of the ARDL model.

This study used Autoregressive Distributed Lag (ARDL) bounds testing approach with a dynamic Error correction model (ECM) to examine long run and short-run impacts of monetary and fiscal policy on investment in Nigeria for 2010-2019. The dynamism of the autoregressive distributed lag (ARDL) model made it more flexible for this study. The model is characterized using endogenous and exogenous variables combined, making it more suitable than VAR model and others, which are designed strictly for endogenous variables. Therefore, since this study is interested on the behaviour of the endogenous variables given the exogenous variables, it become logically accepted to adopt this model. It is also a better alternative in a situation whereby there could be a structural breakdown of Engle and Granger or the two-step procedure because of possible endogeneity. As stated by Pesaran and Shin (1998); Pesaran, Shin, and Smith (2001) ARDL model can be applied also in scenarios where the variables under study are both a combination of I(1) and I(0) in their order of integration thereby eliminated the possibility of spurious result that could occur when time series variables are not stationary. The lag length for in ARDL model unlike in the VAR, must not be alike, which implies that it must not possess an equal lag length. Also, with an error correction model (ECM) there will not be any problem of spurious regression because all the variables that enters the model are stationery and ECM estimate their relationship both in the short run and long run. These attributes of the ARDL and the nature of the objective of the study, formed the decision to adopt the model for this analysis Therefore, the research starts by expressing the functional form of the relationships amongst the variables, as follows:

$$INV = f(MS, ER, MPR, GVR, GVE, DST) \dots\dots\dots\dots\dots\dots\dots\dots\dots(1)$$

Where: INV = Investment, MS = Money Supply, ER = Exchange Rate, MPR = Monetary policy rate, GVR = Government Revenue, GVE = Government Expenditure, DST = Debt Stock

Presenting equation 1 in mathematical and econometric form by introducing the error term and then linearize by taken the natural log, we have equation 2

$$lnInv_t = \beta_1 lnv_t + \beta_2 lnms_t + +\beta_2 lner_t + \beta_2 lnmpr_t + \beta_2 lngvr_t + \beta_2 lngve_t + \beta_2 lndst_t + ln\varepsilon_t \dots\dots\dots\dots\dots\dots\dots\dots\dots(2)$$

Then, the generalize form of ARDL (p,q,) is given in equation 3 as:

$$lnInf_t = \rho_0 + \sum_{n=o}^{p} \alpha_n lnInv_{t-n} + \sum_{j=1}^{q} \beta_j lnv_{t-j} +$$
$$\sum_{n=o}^{p} \alpha_n lnv_{t-n}\ ln\varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(3)$$

Where n=1,2, ..., p and j =1,2, …………, q

As ρ_0 is constant and α_n and β_j, are parameters to be estimated and ε_t is the white noise error term

To perform the bounds test for co-integration, the conditional model is specified as Equation 4 as:

$$\Delta lnInv_t = \alpha lnInv_{t-1} + \beta lnvi_{t-1} + \beta lnv_{t-1} + \sum_{n=o}^{p} \alpha_n ln\Delta Inv_{t-n} + \sum_{j=1}^{q} \beta_j ln\Delta v_{t-j} + \sum_{j=1}^{q} \beta_j ln\Delta v_{t-j} +$$
$$ln\varepsilon_t \ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots\ldots(4)$$

The null hypothesis is that the long run coefficient equation is equal to zero as stated below:

$$H_o = \alpha_n = \beta_j = 0$$

$$H_1 = \alpha_n = \beta_j \neq 0$$

RESULTS AND DISCUSSION

Table 1 Descriptive statistics

	INV	EX	GE	GR	M2	MPR	PD
Mean	-57320.84	261.2146	1767001.	933537.7	23922.73	12.01442	13535967
Median	-63668.78	294.0000	1466484.	945755.8	21401.79	12.00000	16590.39
Maximum	-3796.764	460.0000	3580232.	1654341.	51801.38	16.50000	46250368
Minimum	-108721.7	150.0000	743654.3	498540.0	10907.30	6.000000	4111.353
Std. Dev.	25864.10	100.3559	830701.9	216034.0	11073.19	2.312272	16265928
Skewness	0.341928	0.349626	0.619456	0.502437	1.000268	-1.228061	0.572346
Kurtosis	2.425323	1.711410	2.021316	4.146623	3.068888	4.403480	1.739041
Jarque-Bera	1.728807	4.657070	5.400901	5.036447	8.681601	17.33830	6.284068
Probability	0.421303	0.097438	0.067175	0.080603	0.013026	0.000172	0.043195

The results in the table 1 above indicate that the mean of investment is -57320. the skewness and kurtosis are 0.342 and 2.425 respectively, indicating that investment is positively skewed and that the distribution is platykurtic, which indicates that the degree of peakiness is low. The excess kurtosis can be calculated as kurtosis minus three (k-3=ek): 2.425-3= -0.575 which implies that the distribution is relatively normal. Meanwhile, exchange rate, government revenue, government expenditure and money supply are positively skewed, but monetary policy rate is negatively skewed and the distribution is leptokurtic

Table 2 Unit root test

Variable	ADF (0)	P-val.	PP (0)	P-val.	ADF (I)	P-val.	PP (I)	P-val.
INV	-2.1810	0.2154	-2.1878	0.2130	-5.6707	0.0000	-5.6599	0.0000
EX	0.6614	0.9901	0.8635	0.9942	-6.6158	0.0000	-6.5938	0.0000
GE	1.4974	0.9991	-0.9639	0.7592	-9.8111	0.0000	-18.123	0.0000

GR	-1.7048	0.4226	-4.8608	0.0002	-8.6282	0.0000		
M2	4.6178	1.0000	9.3197	1.0000	-4.7618	0.0003	-4.7742	0.0003
MPR	-3.0912	0.0339	-2.0045	0.2841			-5.2828	0.0001
PD	0.8289	0.9936	0.8289	0.9936	-6.7993	0.0000	-6.7989	0.0000

Source: Authors' computation,

Note *,**,*** represent 1%; 5%; 10% respectively

Table 2 above shows the results of the unit root test. Augmented Dickey-Fuller Test and Phillips-Perron test statistics were adopted to test whether the variables are stationary at level. The result depicts that all variables except monetary policy rate (MPR) and government revenue (GR) were not stationary at level (0), but became stationary after first difference (1). Therefore, the variables are mixture of (1) and (0). Hence, Autoregressive Distributed Lag (ARDL) is the most appropriate model for the investigation.

The long run equation is presented as follows:

$$\Delta inv_t = 2833.5744ex_t + 0.3023ge_t + -0.0805gr_t + -26.1110m2_t + -10336.2241mpr_t$$
$$+ -0.0146pd_t$$

(0.011026)   (0.049)   (0.053)   (0.096)   (0.071)   (0.088) ....(7)

The probability value of each coefficient from the long-run equation above is shown just under the coefficient in brackets. The equation is in conformity with the a-priori expectation, given that a percentage increase in exchange rate and government expenditure will brings about 2833.6 and 0.3023 respective increase in investment level. This is evidence in that government expenditure is an injection into the economy, while exchange rate appreciation attracts more investment into the economy. Furthermore, a unit increase in money supply, monetary policy rate and public debt would reduce investment by 26.11, 10336.22 and 0.015 percent, respectively in long run.

The results of the ARDL bound test is shown below. The F-statistics is 4.577631 which is greater than the upper and lower bound values at both 5.0 per cent and 10.0 per cent levels of significant. Hence the null hypothesis of no cointegration is rejected while the alternative cannot be rejected, confirming the presence of long run relationships between investment, government expenditure, government revenue, exchange rate, monetary policy rate and public debt in Nigeria as shown on the table below. The short run component indicates that government expenditure is only statistically significant at the second lag, which indicate that a unit increase in government expenditure would drive investment by about 0.0219 percent in the economy. Exchange rate, public debt and money supply are all statistically significant in short run, indicating that all the variables have significant influence on investment. This finding is in line with that of Chibi, Benbouziane, and Chekouri (2019) and Ezeibekwe (2020), who both confirmed the present of short run impact of Exchange rate, public debt and money supply on investment in Algeriaand Nigeria, respectively.

The coefficient of the cointegrating variable being the speed of adjustment tells us how long the system takes to come back to equilibrium (speed sof adjustment). For the analysis to be valid, the cointegrating value must be negative, less than one (1) and statistically significant. Given the cointegrating value of 0.0366, one can conclude that in the event of any deviation from long run equilibrium, it will take approximately 27.3 months for the system to revert to equilibrium. In other word, it tells us that 4 percent departure from the long run equilibrium is corrected within 27.3 months.

Table 3 estimated short run and long run coefficients of ARDL result

Variable	Coefficient	Stand. Error	t. statistics	Prob
Short run component				
C	-15009.52	7466.009	-2.010381	0.0524
INV(-1)	0.963363	0.049497	19.46322	0.0000
EX	294.8138	51.93510	5.676581	0.0000
EX(-1)	-300.1846	65.89832	-4.555269	0.0001
EX(-2)	109.1845	57.81794	1.888418	0.0675
GE	-9.47E-05	0.003447	-0.027475	0.9782
GE(-1)	0.001450	0.003985	0.363793	0.7183
GE(-2)	0.009722	0.004046	2.402952	0.0219
GR	-0.002948	0.005353	-0.550659	0.5855
M2	1.984390	1.004489	1.975522	0.0564
M2(-1)	-2.941018	1.126767	-2.610139	0.0134
MPR	1552.886	1249.690	1.242617	0.2225
MPR(-1)	-1931.574	1202.572	-1.606203	0.1175
PD	0.000105	0.000415	0.253045	0.8018
PD(-1)	-0.001344	0.000520	-2.584423	0.0142
PD(-2)	0.000705	0.000343	2.053645	0.0478
Long run component				
D(EX(-1))	-109.1845	41.05233	-2.659641	0.0118
D(GE)	-9.47E-05	0.001862	-0.050874	0.9597
D(GE(-1))	-0.009722	0.002555	-3.805847	0.0006
D(M2)	1.984390	0.729961	2.718488	0.0102
D(MPR)	1552.886	892.5754	1.739781	0.0909
D(PD)	0.000105	0.000283	0.370883	0.7130
D(PD(-1))	-0.000705	0.000276	-2.556899	0.0152
CointEq(-1)*	-0.036637	0.005513	-6.645350	0.0000
Bound test			Lower bound	Upper bound
F-statistic	4.577631	10%	1.99	2.94
		5%	2.27	3.28
R-squared	0.709769	Mean depent var	-1323.033	
Adjusted R-sq	0.653139	S.D. depent var	7550.873	
S.E. of regression	4447.080	Akaike info crit.	19.79943	
Sum sq resid	8.11E+08	Schwarz criterion	20.14360	
Log likelihood	-485.9858	Hannan-Q criter.	19.93049	
Durbin-Watson stat	2.252968			

Source: Authors' computation *,**,*** represent 1%; 5%; 10% respectively

The adjusted R^2 that was utilised to gauge the model's goodness of fit is satisfactory. The model has a strong fit since it accounts for 65 percent of the variation in the dependent variable (INV) using the combined effects of all the regressors government expenditure (GE), government revenue (GR), exchange rate (EX), money supply (M2), monetary policy rated (MPR) and public debt (PD). The influence of the explanatory variables in the model is satisfactory. The Durbin-Watson statistics of 2.252968 falls within the region and indicates the absence of autocorrelation in the series. The combined significance of all the independent variables in the

model is measured using the F statistics of 4.6, which is statistically significant considering the p-value and provides a satisfactory fit. All variables bear insignificant negative and positive effect on inflation in Nigeria, which contradicts a priori expectations. In long run, the results also show that exchange rate, Government expenditure, money supply, monetary policy rate and public debt have a positive and significant influence on the investment in the economy.

Table 4 Breusch-Godfrey Serial Correlation LM Test and Heteroskedasticity Tests

Serial Correlation LM Test			
F-statistic	0.957167	Prob. F(2,32)	0.3947
Obs*R-squared	2.822308	Prob. Chi-Square(2)	0.2439
Heteroskedasticity Tests			
F-statistic	3.723886	Prob. F(15,34)	0.0007
Obs*R-squared	31.08132	Prob. Chi-Square(15)	0.0086
Scaled explained SS	30.15823	Prob. Chi-Square(15)	0.0114

Table 4 present the result of Breusch-Godfrey serial correlation test and Heteroskedasticity Test. As seen in the table, the p-value of F-statistics is 0.3947, which is greater than 5% level of significance, indicating that the null hypothesis of no serial correlation cannot be rejected. The paper therefore concludes that there is no serial correlation in the model. Furthermore, the p-value of F-statistics is 0.0007, which is less than 5% level of significance, indicating that the null hypothesis of Homoskedasticity can be rejected. The paper therefore concludes that there is no Homoskedasticity in the model.

Stability Test

To determine the stability of ARDL within the concept of coefficient of long run and short run result presented above, the paper used cumulative sum of recursive residual (CUSUM).

The rule states that if the plot lies within upper and lower bound (5% range of significance level), the null hypothesis of coefficient in error correction model (ECM) are stable and cannot be rejected (Bahmani-Oskooee and Ng, 2002). Based on the figure below, the plot lies within the bound and indicates that the dependent variable is stable overtime.
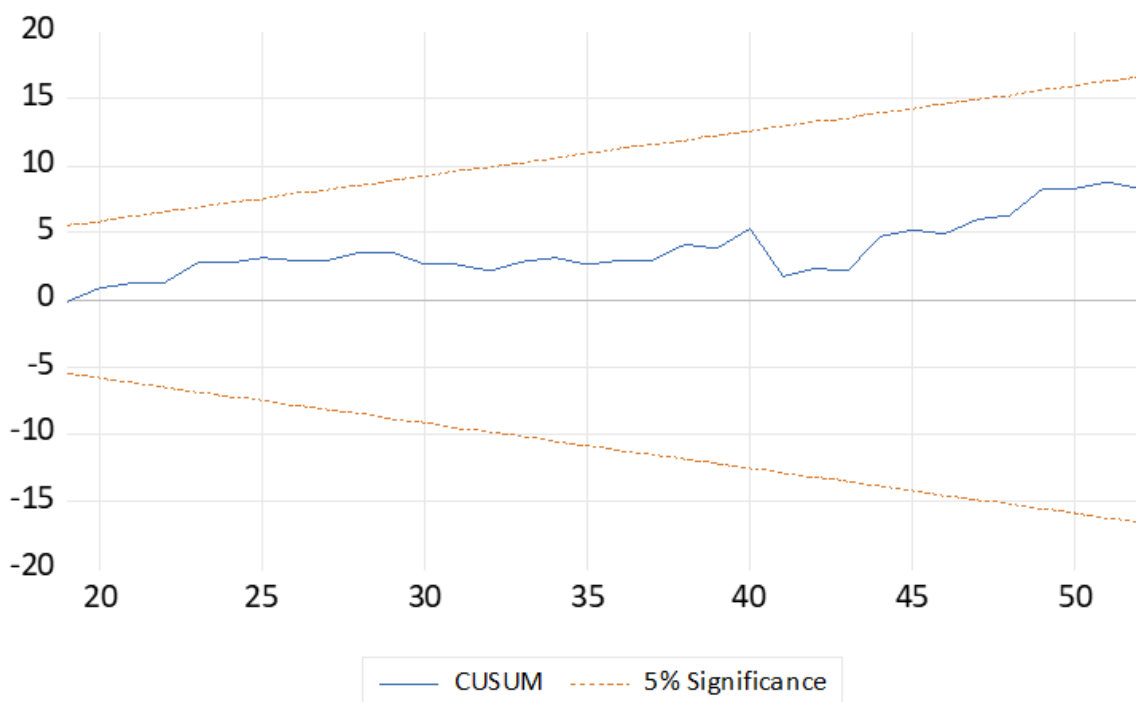
CONCLUSION AND POLICY REMARKS

This study assessed the interference of monetary and fiscal policy on investments in Nigeria by applying ECM using quarterly data from 2010Q1 to 2022Q4. From the results, it shows that exchange rate, government expenditure, money supply monetary policy rate and public debt have both short run and long run relationships with investment in Nigeria, while government revenue probably due to multiple taxes that exist in the economy only has negative and insignificant relationship with investment in Nigeria. This finding is in line with that of Chibi, Benbouziane, and Chekouri (2019) and Ezeibekwe (2020), who both confirmed the present of short run impact of exchange rate, public debt and money supply on investment, respectively.

Based on the above findings, the paper recommends that the monetary authorities should find and adopt an optimum monetary policy rate that would be conducive and encourage investment in Nigeria. The fiscal authority should review the multiple taxes charge on businesses to encourage more investment in the country. Furthermore, the paper recommends that government expenditure should continue to be used channel toward projects that would make investment environment conducive for investors. To achieve this, coordination between fiscal and monetary authorities should be sustained.

REFERENCES

1. Adefeso, H.A. & Mobolaji, H.I., (2010). The fiscal – monetary and economic growth in Nigeria. further empirical evidence. *Pakistan Journal of Social Sciences*, 7-142.
2. Bodurin, O.S. (2016). The impact of fiscal and monetary policy on Nigeria's economic growth. MPRA paper no 92811. https://mpraub.uni.muenchende/92811, March
3. CBN (2023). Official Exchange Rate. Retrieved from cbn.gov.ng/rates/exchange.
4. Chibi, A., Benbouziane, M. & Chekouri, S.M (2019). Interaction between monetary and fiscal policy: Empirical evidence from Algeria Annual Conference, Kuwait. March 10 -11.
5. Chigbu, E.Z. & Njoku, M. (2013). The impact of monetary and fiscal policy on nigeria's economic growth (1990 – 2010). *European Journal of Business and Management*, 5(2).
6. Chuka, C.A. (2010). Monetary and fiscal policy interactions in Nigeria: an application of a state space model with Markov switching. *CBN Journal of Applied Statistics*, 1(1), 39 -51.
7. Ezeibekwe, O.F. (2020). Monetary policy and investments in Nigeria: the role of the inflation rate. *Sciendo Economics and Business*, 34, 139 – 155.
8. FDI (1970 -2023). Retrieved from www.macrotrends.net/countries.
9. Folawewo, A.O. & Osinubi, T.S. (2006). Monetary policy and macroeconomic instability in Nigeria: a rational expectation approach. *Journal of Social Sciences*, 12(2), 93-100.
10. Idris, M. (2019). Relative impact of monetary and fiscal policy on output growth in a small open economy. *American Research Journal of Humanities and Social Sciences,* 2(8), 26-38
11. Lucky, A.L. & Uzah, C.K. (2017). Monetary policy transmission mechanism and domestic real investment in Nigeria: a time series study (1981 – 201). *International Journal of Economics and Financial Management*, 2(2).
12. Musa, Y., Asare, B.K. & Gulumbe, S.U. (2013). Effect of monetary and fiscal policy interaction on price and output growth in Nigeria. *CBN Journal of Applied Statistics*, 04(1), 55 – 74
13. OAGF (2022). FGN Consolidated Fiscal Report.
14. Oboh, (2017). Monetary and Fiscal Coordination in Nigeria. A Set theoretic approach. *Academic Journal of Economics Studies*, 3(1), 48 – 58.
15. Oketoyin, G.A, Ogbonna, K. & Uju, A.F. (2018). Effect of Government Policy on Price Stability, (1980 – 2015). *European Centre for Research Training and Development, UK,* 6(3), 86 – 94.
16. Okonkwo, N., Egbulonu, K.G. & Mmaduabuchi, E.F. (2015). Monetary policy and the manufacturing sector in Nigeria. *SSRG International Journal of Economics and Management Studies*, 2(1), 17 -25
17. Omitogun, O. & Ayinla, T.A. (2007). Fiscal Policy and Nigerian Economic Growth. *Journal of Research in National Development*, 5(2).

18. Sarwat, J., Mahmud, A.S. & Papageorgiou, C. (2014). What Is Keynesian Economics? *Finance & Development*, 5(3)

19. Statistica (2023). Gross Domestic Investment as a share of GDP in Nigeria, 2017-2022. Retrieved from www.statistica.com/statistics.

20. Uduebo, M.A. (1985). The role of monetary and fiscal policies in industrial and agricultural development in Nigeria. *Nigeria Economics and Financial Review,* 25(1), 5-19.

21. Usman, O.A. & Adegbite, T.A. (2014). Impact of Monetary Policy on Industrial Growth In Nigeria. *International Business of Academic Research in Business and Social Sciences*, 4(1), 18 -31.