



Interaction effect of fiscal and monetary policies on the level of inflation in Nigeria

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Abstract: Inflation, a persistent economic challenge in Nigeria, erodes purchasing power, distorts investment decisions, and exacerbates inequality. This research estimates the interaction effects of fiscal and monetary policies on inflation, focusing on the coordination challenges between these policy frameworks. The study considered secondary data for a period of 36 years covering 1986 to 2021. Using an ARDL model, the research incorporates key variables such as real GDP, total government expenditure, money supply, fiscal deficits and others. The findings reveal that interest rate and money supply significantly influence inflation, highlighting the dominant role of monetary policy. Conversely, fiscal spending shows no direct long-run impact on inflation, while fiscal deficits contribute to inflationary pressures. The coefficient of interaction between monetary and fiscal policies demonstrates a modest stabilizing effect, underscoring the need for coordinated policy efforts. The study identifies a lack of synchronization between fiscal and monetary policies as a critical factor exacerbating inflation volatility. Structural issues, such as exchange rate instability and the informal economy, further complicate inflation management. Recommendations include prioritizing money supply control, fostering fiscal-monetary coordination, and addressing the structural factors underlying inflation. This research provides actionable insights for policymakers to design sustainable strategies aimed at achieving macroeconomic stability and controlling inflation in Nigeria.

Keywords: Fiscal Policy, Monetary Policy, Inflation..

Resumen: La inflación, un desafío económico persistente en Nigeria, erosiona el poder adquisitivo, distorsiona las decisiones de inversión y exagera la desigualdad. Esta investigación estima los efectos de interacción de las políticas fiscales y monetarias sobre la inflación, centrándose en los retos de coordinación entre estos marcos políticos. El estudio consideró datos secundarios para un período de 36 años, que

abarca desde 1986 hasta 2021. Utilizando un modelo ARDL, la investigación incorpora variables clave como el PIB real, el gasto público total, la oferta monetaria, los déficits fiscales y otras. Los resultados revelan que los tipos de interés y la oferta monetaria influyen significativamente en la inflación, lo que pone de relieve el papel dominante de la política monetaria. Por el contrario, el gasto fiscal no muestra un impacto directo a largo plazo sobre la inflación, mientras que los déficits fiscales contribuyen a las presiones inflacionistas. El coeficiente de interacción entre las políticas monetarias y fiscales muestra un modesto efecto estabilizador, lo que subraya la necesidad de coordinar los esfuerzos políticos. El estudio identifica la falta de sincronización entre las políticas fiscales y monetarias como un factor crítico que exacerba la volatilidad de la inflación. Cuestiones estructurales, como la inestabilidad del tipo de cambio y la economía informal, complican aún más la gestión de la inflación. Las recomendaciones incluyen dar prioridad al control de la oferta monetaria, fomentar la coordinación fiscal-monetaria y abordar los factores estructurales que subyacen a la inflación. Esta investigación proporciona información útil para que los responsables políticos diseñen estrategias sostenibles destinadas a lograr la estabilidad macroeconómica y controlar la inflación en Nigeria.

Palabras clave: Política fiscal, política monetaria, inflación.

1. Introducción

Inflation, a persistent rise in the general price level, remains one of the most critical economic challenges in Nigeria (Mordi et al, 2013). It erodes purchasing power, distorts savings and investment decisions, and exacerbates income inequality. Over the years, Nigeria has experienced volatile inflation rates, influenced by structural deficiencies, external shocks, and policy inefficiencies (Abanikanda & Dada, 2024). The country's economy, heavily reliant on oil revenues, is particularly vulnerable to global price fluctuations, creating a complex environment for policymakers to manage inflation effectively. In this context, the interaction between fiscal and monetary policies plays a crucial role in shaping the dynamics of inflation. However, the coordination and effectiveness of these policies in addressing inflationary pressures have come under scrutiny.

Fiscal policy, involving government spending and taxation, is a critical tool for influencing aggregate demand and supply (Aisyah et al, 2024). In Nigeria, fiscal policy has often been expansionary, characterized by high public spending and budget deficits (Ekong et al, 2024). These deficits are frequently financed through borrowing, which has implications for inflation. For instance, deficit financing through central bank lending (monetary financing) increases money supply, fueling inflationary pressures. Additionally, the over-reliance on oil revenues for fiscal sustenance exposes the economy to external shocks, as fluctuations in global oil prices disrupt revenue projections and expenditure plans. Despite efforts to diversify the economy, Nigeria's fiscal space remains constrained by inefficient tax systems, corruption, and leakages in public expenditure (Osmond & Okechukwu, 2024). Consequently, the government struggles to implement counter-cyclical fiscal measures effectively. For example, attempts to curb demand by raising taxes or cutting spending during times of high inflation are frequently met with social unrest and political opposition. Similarly, subsidy regimes, intended to cushion the populace from high costs, inadvertently contribute to fiscal imbalances and inflationary pressures when poorly managed.

Monetary policy on the other hand, executed by the Central Bank of Nigeria (CBN), focuses on controlling interest rate and money supply for the purpose of stability of prices. The CBN employs various instruments, including open market activities, monetary policy rates, and cash reserve requirements to affect inflation (Osmond & Okechukwu, 2024). However, Nigeria's monetary policy's efficacy is hampered by structural and institutional challenges (Oyadeyi, 2024). One major challenge is the high level of informal

economic activities, which limits the transmission mechanism of monetary policy. A significant portion of the Nigerian economy operates outside formal banking channels, reducing the effectiveness of interest rate adjustments and other monetary tools. Furthermore, the banking sector faces issues such as non-performing loans and limited credit access for small and medium enterprises, which hinder monetary policy's ability to stimulate or constrain economic activities as needed. Another critical issue is the exchange rate regime. The CBN has historically adopted multiple exchange rate systems to stabilize the naira and manage inflation. However, these systems often result in market distortions, speculative activities, and inflationary pressures, especially when currency depreciation occurs. The interplay between exchange rate management and inflation remains a contentious aspect of monetary policy in Nigeria.

In theory, fiscal and monetary policies should complement each other to achieve macroeconomic stability, including inflation control (Bofinger, 2024). Fiscal policy should ideally focus on sustainable government spending and revenue generation, while monetary policy targets price stability and liquidity management. However, in practice, the interaction between these policies in Nigeria has often been characterized by misalignment and conflicting objectives. For instance, while the CBN may adopt a contractionary monetary policy stance to curb inflation, the federal government may simultaneously pursue fiscal expansionary measures, like higher expenditures on infrastructure and social programs. This policy disconnect not only undermines the effectiveness of monetary measures but also creates uncertainty in the economy, as businesses and consumers struggle to predict policy outcomes. Moreover, the financing of fiscal deficits by the CBN exacerbates the inflationary impact of fiscal policy. When the central bank monetizes deficits, it increases money supply, which can offset the effects of contractionary monetary policies. This scenario highlights the lack of coordination between fiscal and monetary authorities, which is critical for managing inflation effectively (Kure & Salisu, 2024; Olawale, 2024).

Despite the extensive body of literature on inflation in Nigeria, several gaps remain. First, many studies focus on either fiscal (Otto & Ukpere, 2015; Ozoh et al, 2016; Olanakanmi, 2015) or monetary policy (Musa & Amuta, 2021; Emerenini & Eke, 2014; Ezeanyejí et al, 2021) in isolation, neglecting the interaction effects between the two. This approach fails to capture the complexities of inflation dynamics in Nigeria, where both policies are often simultaneously at play. Furthermore, while some studies highlight the importance of policy coordination, few provide actionable insights into how such coordination can be achieved in the Nigerian context. Theoretical frameworks often emphasize the need for institutional reforms and

capacity building but offer limited guidance on practical implementation strategies (Brinkerhoff & Crosby, 2002). This gap underscores the need for a comprehensive analysis of the interaction effects of Nigerian monetary and fiscal policies on inflation.

The lack of effective coordination between fiscal and monetary policies not only exacerbates inflationary pressures but also undermines economic growth and stability (Borio, 2014). According to Goldstein (1995), high inflation discourages savings and investments, as uncertainty about future prices leads to speculative activities and capital flight. Additionally, inflation disproportionately affects low-income households, worsening poverty and inequality (Sintos, 2023; Siami-Namini & Hudson, 2019). Given these challenges, there is an urgent need for a coordinated policy framework that aligns fiscal and monetary objectives to achieve price stability. This study aims to fill the existing gaps in the literature by examining the interaction effects of fiscal and monetary policies on inflation in Nigeria. By adopting a macroeconomic modeling approach, the study provides insights into how these policies interact under different economic scenarios. The findings will inform policymakers on designing and implementing coordinated strategies to achieve sustainable inflation control. The persistent inflationary challenges in Nigeria underscore the critical need to understand the interaction between fiscal and monetary policies. While each policy has its own strengths and limitations, their combined effects determine the overall effectiveness of inflation management. Addressing this issue requires not only robust empirical analysis but also a commitment to institutional reforms and policy coordination. Through this study, we aim to contribute to the ongoing discourse on inflation control and macroeconomic stability in Nigeria, offering practical recommendations for policymakers and stakeholders.

2. Review of related literature

Much scholarly and policy attention has been paid to the interplay between the effects of fiscal and monetary policy on inflation. A persistent rise in the average price of goods and services is known as inflation, and it has a big impact on both economic growth and stability. In Nigeria, inflation has been a persistent challenge, driven by both structural factors and policy misalignments. This literature review examines the theoretical and empirical insights into how fiscal and monetary policies interact to influence inflation, with a focus on the Nigerian context. Fiscal policy includes the government's choices about borrowing, taxing, and spending, which aims to affect economic activity. (Martin et al, 2022; Chugunov & Pasichnyi, 2024). Classical and Keynesian theories provide divergent perspectives on

how fiscal policy affects inflation. The classical view posits that excessive government spending, particularly when financed through borrowing or monetary expansion, leads to inflation. This is grounded in the Quantity Theory of Money ($MV = PQ$), where increases in money supply (M) without corresponding increases in output (Q) result in higher price levels (P) (Bordo & Levy, 2021; Lindberg & Maier, (Eds.) 1985; Spencer & Yohe, 1970), while, Keynesians argue that fiscal policy primarily influences aggregate demand and that its inflationary impact based on the economic situation. In situations of full employment, expansionary fiscal policy can lead to demand-pull inflation, whereas in recessions, it may not have inflationary effects due to idle resources (Blinder, 2008; Fazzari, 1994).

Theories of Monetary Policy and Inflation

To preserve price stability, central banks employ monetary policy to regulate the money supply and interest rates (Simons, 2024). The connection between inflation and monetary policy is based on several theoretical frameworks. The monetarist theorists led by Milton Friedman, according to Friedman, the monetary phenomena of inflation is always brought about by the money supply expanding too quickly (Michail & Michail, 2021). Central banks control inflation by managing money supply growth in line with output growth. In the same vein, the new Keynesian framework incorporates price rigidities and focuses on interest rates' function in limiting inflation (Padhi, 2024). Central banks use tools like the Taylor Rule to adjust policy rates in response to deviations in inflation and output. While, the traditional Phillips Curve suggests a trade-off between inflation and unemployment (Rolim, 2024). However, the expectations-augmented Phillips Curve highlights that inflation depends on both demand-side pressures and inflation expectations (Briand et al, 2024).

The Relationship between Monetary and Fiscal Policy

The relationship between monetary and fiscal policy is critical in determining inflationary outcomes. Effective inflation control requires coordination between fiscal and monetary policies. For instance, the Ricardian equivalence theory argues that fiscal deficits, if perceived as future taxes, may not have inflationary effects if monetary policy remains tight (Arestis & Sawyer, 2004; Blinder, 1982). However, the unresolved fiscal versus monetary dominance, where under fiscal dominance, monetary policy is subordinated to fiscal needs, leading to inflationary pressures as central banks finance deficits and under monetary dominance, fiscal policy is aligned with monetary goals, ensuring price stability (Abdalfafez, (2021; Saad-Filho, 2007).

Empirical Literature Review

Empirical studies from various countries provide insights into the interaction effects of fiscal and monetary policies on inflation: Studies on advanced economies, such as the United States and the Eurozone, emphasize the importance of policy coordination. For example, Taylor (1993) demonstrated that deviations from coordinated policy frameworks lead to inflation volatility. In emerging economies, fiscal deficits financed through monetary expansion are a common driver of inflation. Dornbusch and Fischer (1993) highlighted that weak institutions and fiscal dominance often undermine monetary policy effectiveness in these economies. Research on developing economies shows that inflationary outcomes are influenced by structural factors, such as commodity dependence and exchange rate regimes. For instance, Aizenman and Marion (1993) found that countries with high fiscal deficits and unstable monetary policies experience chronic inflation.

Empirical studies on the Nigerian economy provide valuable insights into the connection between inflation and monetary and fiscal policies. Several studies emphasize the inflationary effects of fiscal deficits in Nigeria. Omitogun and Ayinla (2007) found that expansionary fiscal policies, particularly during oil booms, contributed significantly to inflationary pressures. The reliance on deficit financing through central bank lending exacerbates this problem. Studies on monetary policy effectiveness highlight the challenges of inflation targeting in Nigeria. Olubusoye and Oyaromade (2008) identified a strong link between money supply growth and inflation. However, the informal economy and structural rigidities weaken the transmission mechanisms of monetary policy. Empirical analyses of fiscal-monetary interactions in Nigeria reveal mixed outcomes. Adegbite and Fasanya (2020) found that uncoordinated policies often lead to inflation volatility. Fiscal dominance, particularly during periods of high deficits, undermines the effectiveness of monetary tightening. The exchange rate plays a critical role in inflation dynamics in Nigeria. Studies, such as Adesoye et al. (2015), demonstrate that fiscal and monetary policies must account for exchange rate pass-through effects to manage inflation effectively.

Gaps in the Literature

Many studies analyze fiscal and monetary policies in isolation, neglecting their interaction effects on inflation. This limits the understanding of how policy coordination or misalignment influences inflation dynamics. Empirical studies often emphasize short-term relationships, with limited attention to long-term structural factors, such as institutional quality, corruption, and external shocks. Few studies explore the practical challenges of implementing coordinated fiscal and monetary policies in Nigeria,

such as political constraints and capacity limitations. Limited research has been conducted on the role of external factors, such as global oil price fluctuations and exchange rate volatility, in shaping fiscal-monetary interactions and price level outcomes in the Nigerian economy. The link existing between fiscal measures and monetary measures significantly influences inflation dynamics in Nigeria. While theoretical models highlight the importance of policy coordination, empirical evidence reveals challenges, including fiscal dominance, structural rigidities, and external vulnerabilities. Addressing these issues requires robust institutional frameworks, effective policy coordination, and a comprehensive understanding of the structural factors driving inflation. Future research should focus on developing practical strategies to enhance the alignment of fiscal and monetary policies in Nigeria, ensuring sustainable inflation control and economic stability.

3. Methodology

The framework for the research is hanged on the Ricardian equivalence theory which argues that fiscal deficits, if perceived as future taxes, may not have inflationary effects if monetary policy remains tight. The Ricardian Equivalence Theory is a concept in public finance that suggests government budget deficits have no effect on the overall level of demand in an economy, assuming rational behavior by households. The theory is named after the classical economist David Ricardo, who first proposed the idea in the early 19th century, and was later formalized and popularized by economist Robert Barro in 1974.

According to the previously mentioned framework and taking into account the goal of this investigation while keeping in mind that various determinants of inflation, we follow the works of Zhunio et al, (2014) to specify the following model for the study

$$Inf = f(RGDP, TGEXP, EXCH, MS, INT, FD) \text{ -----(3.1)}$$

where

INF = Inflation Rate

RGDP = Real Gross Domestic Product

TGEXP = Total Government Expenditure

EXCH= nominal Exchange Rate

MS = Money Supply

INT = interest rate

FD = fiscal deficit

It is to be noted that the variables scope is from 1986 to 2021 as the whole data from the research are sourced from the WDI (2022)

The Autoregressive Distributive Lag (ARDL) Model

In this work, the Autoregressive Distributive Lag model was used for analysis and estimate. A variation of the least squares regression model that takes into account the lags of the regressors and regressands is the Autoregressive Distributive Lag (ARDL) model. The ARDL notation is In this case, p is the regressand's lag length, k is the first regressor's lag length, and k is the lag of the k -th regressors. Three factors make the ARDL estimation technique relevant for this study: first, it addresses the perceived endogeneity issue between the GDP and inflation variables in the model; second, it can be applied regardless of whether the order of integration of each variable is zero, one, or two; and third, it produces effective results even in small samples. Therefore, equation 1 is transformed as follows:

$$\begin{aligned} \Delta INF_t = & \alpha_0 + \sum_{i=1}^p \delta_i \Delta INF_{t-1} + \sum_{i=1}^p \beta_k \Delta TGEXP_{t-k} + \sum_{i=1}^p \epsilon_F \Delta EXCH_{t-k} + \sum_{i=1}^p \gamma_l \Delta MS_{t-l} \\ & + \sum_{i=1}^p \varphi_m \Delta INT_{t-m} + \sum_{i=1}^p \psi_n \Delta FD_{t-n} + \sum_{i=1}^p \rho_o \Delta TGEXP_MS_{t-o} + \lambda_1 INF_{t-1} \\ & + \lambda_2 TGEXP_{t-1} + \lambda_3 EXCH_{t-1} + \lambda_4 MS_{t-1} + \lambda_5 INT_{t-1} + \lambda_6 FD_{t-1} \\ & + \lambda_7 TGEXP_MS_{t-1} + \mu_t - - - - (2) \end{aligned} \tag{1}$$

where μ_t denotes the error term and α_0 the constant, respectively. The components that have summation indications show error correction, whereas their corresponding short-term effects are represented by the " λ ," which shows their proper long-term relationship.

4. Result

Table 1:
Descriptive Statistics

	TGEXP_MS	RGDP	MS	GDEBT	FD	EXCH	INT	INF
Mean	55518561	4.09E+13	8014.345	6722.871	1464.217	123.0889	11.50515	19.44256
Median	2693334.	3.49E+13	2015.219	3901.633	678.1784	124.1389	11.34932	12.83899
Maximum	5.41E+08	7.52E+13	41618.26	37690.17	6842.006	413.0472	24.03073	76.42606
Minimum	421.0483	1.71E+13	24.96920	39.19732	-1450.564	0.948124	3.775811	1.863981
Std. Dev.	1.03E+08	2.01E+13	10371.63	8478.417	2036.217	108.2121	4.126824	17.68335
Skewness	2.555352	0.407168	1.257424	1.851993	1.014954	0.859261	0.592675	1.717719
Kurtosis	9.677887	1.544187	3.635776	5.810045	2.964449	3.022135	3.524071	4.720187
Jarque-Bera	424.2808	16.69521	40.37203	129.6952	24.73074	17.72283	10.07824	88.56770
Probability	0.000000	0.000237	0.000000	0.000000	0.000004	0.000142	0.006479	0.000000
Sum	7.99E+09	5.89E+15	1154066.	968093.5	210847.3	17724.81	1656.741	2799.729
Sum Sq. Dev.	1.52E+18	5.77E+28	1.54E+10	1.03E+10	5.93E+08	1674511.	2435.387	44716.24
Observations	36	36	36	36	36	36	36	36

The table provides descriptive statistics for various macroeconomic variables over a sample of 144 observations. From the table, the mean inflation rate (INF) is 19.44%, indicating a relatively high average inflation level in the sample period. The average Real GDP (RGDP) is 4.09E+13 (or approximately ₦40.9 trillion), reflecting Nigeria's economic size during the period. The maximum inflation rate (76.43%) suggests periods of high price instability, while the minimum inflation rate (1.86%) indicates periods of low inflation. Money supply (MS) has a standard deviation of 10,371.63, reflecting large fluctuations in monetary policy measures while, Inflation rate (INF) has a standard deviation of 17.68, indicating high volatility in price levels. Positive skewness values suggest the data is skewed to the right, meaning more observations are below the mean, for example, TGEXP_MS (2.56) and GDEBT (1.85) have highly positive skewness, indicating the presence of extreme high values (outliers). Kurtosis values greater than 3 indicate a leptokurtic distribution with heavier tails (more outliers). For example, TGEXP_MS has a kurtosis of 9.68, indicating extreme outliers in government expenditure data. INF has a kurtosis of 4.72, suggesting moderately heavy tails in the inflation rate distribution. The Jarque-Bera (JB) Statistic tests whether the distribution of the variable deviates significantly from normality. A small p-value (Probability) indicates rejection of the null hypothesis of normality. All variables in the table have p-values close to 0.000, indicating that none of the variables follow a normal distribution. However, normality is not an issue since the number of observations is more than 36. Hence the high variability and skewness in inflation rates suggest the need for coordinated fiscal and monetary policies to achieve price stability.

Unit Root Test Results

Table 2 displays a summary of the unit root test findings for the levels and first difference series. The applicable test is the Philip Peron test. Given that the Philip Peron test statistic's absolute value only exceeded a threshold of significance at the first difference, the result shows that all other variables were non-stationary, with the exception of FD, which is integrated of order zero. Additionally, table 1 results show that the majority of the variables became stable at first difference, allowing the autoregressive framework to employ the error correction model. The outcome further supported the implementation of ARDL for the investigation by demonstrating that none of the variables are I(2).

Table 2:
An overview of the series' Philip Peron Unit root test results

Variables	Test Critical Values (5% Level)	1 st Difference Philip Peron test stat	Order of integration
RGDP	-3.441777	-5.260023	I(1)
EXCH	-3.449365	-6.532502	I(1)
MS	-3.449365	-5.078207	I(1)
INT	-3.449365	-4.978936	I(1)
FD	-3.449365		I(0)
TGEXP	-3.449365	-10.10080	I(1)

Since the non-stationary variables were differenced to eliminate the random pattern, a phenomena associated with data from time series, one of the main prerequisites for using the ARDL estimate technique is that neither of the variables are I(2); instead, they are either I(0) or I(1), as the result showed.

Table 3:
ARDL Bound Test

Test Stat	Value	k
F-stat	8.620703	7
Critical Value Bounds		
Significance(%)	I0 Bound	I1 Bound
10	2.03	3.13
5	2.32	3.5
2.5	2.6	3.84
1	2.96	4.26

It is evident from the results in table 3 above that, at the 5% level of significance, the bound test F-statistic of 8.620703 is higher than the upper bound critical value of 3.5. This suggests that the variables have a long-term relationship. And this outcome enables us to proceed with the ARDL model estimation.

Table 5:
Long-term Coefficient Estimates Using ARDL (4, 1, 0, 0, 0, 5, 0, 1)

Regressor	Coefficient	Standard Error	t-Statistics	P-Value
Dependent Variable: INF				
RGDP	-0.000000	0.000000	-2.490242	0.0141
TGEXP	-0.000782	0.003976	-0.196727	0.8444
EXCH	-0.071110	0.045370	-1.567335	0.1197
MS	0.006187	0.001870	3.308343	0.0012
INT	3.100710	0.572802	5.413230	0.0000
FD	0.002966	0.001354	2.190502	0.0304
TGEXP_MS	-0.000000	0.000000	-2.017789	0.0458
C	29.433945	15.052241	1.955453	0.0529

Notes: $R^2 = 0.861923$ Adjusted $R^2 = 0.838616$ S.E of regression = 0.003416 F-statistics = 35.54090 Prob(F-statistics) = 0.0000 Durbin Watson = 2.200924

This table 5 provides the long-run relationships among the explained variable **Inflation (INF)** and the explanatory variables, as estimated using an ARDL model. From the result, Real GDP has a small negative and statistically significant effect on inflation at the 5% level. This suggests that as economic output increases, inflation tends to decline marginally, reflecting a stabilizing impact of economic growth on price levels. However, the magnitude of the effect is negligible. Furthermore, the high p-value (higher than 0.05) suggests

that there is no statistically meaningful long-term relationship between overall government spending and inflation. This suggests that in this model, fiscal spending has no long-term direct impact on inflation. There is a statistically negligible negative correlation between inflation and the currency rate. While a depreciating exchange rate (higher EXCH values) could potentially reduce inflation in this model, the lack of significance suggests that this relationship may not hold consistently. At the 1% level, the money supply positively and statistically significantly affects inflation. This suggests that, in line with monetary theory (such as the quantity theory of money), a rise in the money supply inevitably results in higher inflation. In the same vein, Interest rates have a strong positive and statistically significant relationship with inflation at the 1% level. This counterintuitive result may reflect high inflation expectations or cost-push inflation, where higher borrowing costs are passed on to prices. Also, fiscal deficits have a statistically significant positive effect on inflation at the 5% level. This suggests that larger fiscal deficits contribute to inflationary pressures, potentially due to increased government borrowing or monetization of deficits. Finally, the interaction between government expenditure and money supply has a small negative and statistically significant effect on inflation at the 5% level. This implies that the combined influence of the both policies may act to moderate inflation, possibly reflecting coordinated policy efforts.

The fitted regression line's goodness of fit to a set of data is gauged by the coefficient of determination (R^2). The model's R^2 score of 0.862895 indicates that changes in the independent variables in the model account for roughly 86 percent of the dependant variable's (INF) variances. This is acceptable because it is more than 50 percent. The independent factors are also statistically significant when taken together and, hence, dependable, as indicated by the F statistics of 35.54090 and its probability of 0.000000. However, the regression is not erroneous, as indicated by the 2.200924 Durbin-Watson value.

The analysis of the independent factors' short-term dynamic effects on the dependent variable comes next, and the short-term outcome is shown below.

Table 6:
Short-term Outcomes and Diagnostic Examinations

Dependent Variable: INF				
Regressor	Coefficient	Standard Error	t-Statistics	p-Value
D(INF)	0.406223	0.067266	6.039061	0.0000
D(INF)	0.243773	0.075356	3.234957	0.0016
D(INF)	0.190656	0.073759	2.584864	0.0109
D(RGDP)	-0.000000	0.000000	-3.317131	0.0012
D(TGEXP)	-0.000164	0.000834	-0.196848	0.8443
D(EXCH)	-0.014930	0.009775	-1.527396	0.1293
D(MS)	0.001299	0.000398	3.261680	0.0014
D(INT)	-0.786800	0.309571	-2.541581	0.0123
D(INT(-1))	-0.029045	0.450391	-0.064488	0.9487
D(INT(-2))	-0.080301	0.450315	-0.178322	0.8588
D(INT(-3))	1.997806	0.478377	4.176217	0.0001
D(INT(-4))	-2.074716	0.306932	-6.759528	0.0000
D(FD)	0.000623	0.000282	2.204142	0.0294
D(TGEXP_MS)	0.000000	0.000000	1.630518	0.1056
CointEq(-1)	-0.209963	0.022781	-9.216460	0.0000
Diagnostic Tests				
Test	F-statistics	Prob. Value		
² SERIAL	1.055000	0.3523		
² ARCH	0.094721	0.7588		
² REMSAY	0.005954	0.9387		

The established long-term association between the variables is validated by the statistically significant negative estimate of ECMt-1. Additionally, the data show that the ECMt-1 estimate is -0.209963 and statistically significant at the 5% level. This suggests that in a quarter, roughly 20% of long-term equilibrium deviations are compensated for.

Implications of the findings and Recommendations

From the result, Money supply (MS) and interest rates (INT) have the strongest and most significant effects on inflation, emphasizing the role of monetary policy in controlling price levels. While fiscal deficits (FD) are significant, government expenditure (TGEXP) does not directly influence inflation. The interaction term (TGEXP_MS) indicates that fiscal and monetary coordination can moderate inflation, but the effect is small, while, The exchange rate does not significantly impact inflation in the long run, potentially reflecting a muted pass-through effect or offsetting policies. Hence, controlling money supply growth is crucial to curbing inflationary pressures. Again, the result of the interaction term implies that coordinated fiscal and monetary policies can help stabilize inflation. Also, Policymakers should investigate the counterintuitive positive relationship between interest rates and inflation to address structural or policy-related factors driving this outcome and reducing fiscal deficits to help lower inflationary pressures in the long run

5. Conclusion

This study reveals that the interaction of fiscal and monetary policies significantly influences inflation level in Nigeria. While money supply and interest rates exert strong impacts, fiscal deficits contribute to inflationary pressures. Effective policy coordination, particularly in managing money supply and fiscal deficits, is essential to stabilize inflation. Addressing structural challenges remains crucial for sustainable economic stability.

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