CHAPTER FOURTEEN

PECUNIARY STABILIZATION TOOLS AND ECONOMIC GROWTH IN NIGERIA

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Abstract

Wide-ranging effects affect economies in many ways, essentially when governments choose to implement either a contractionary or expansionary course of action or an added tool, such as a fiscal policy intended to stabilize or boost an economy, depending on the overall status of the market or the level of growth or stagnation within the economy. Regrettably, inflation is the leading adverse consequence of these policies, which basically occurs as the money supply outpaces the rate of growth in an economy. Thus, using a variety of economic variables, this study scrutinized the impact of fiscal and monetary policies on economic growth in Nigeria. The aggregate production function, which represents Solow growth theory, serves as the foundation for the hypothetical framework used in this study, as do time series data from 1992--2021, which equally encircles the prestructural adjustment program (Pre-SAP) and poststructural adjustment program (Post-SAP) episodes. This study revealed that gross capital formation, the total number of employees, a broad money supply, and the lending interest rate are significant factors determining economic growth in Nigeria. The study additionally documented that gross capital formation, total number of employees, and broad money supply have positive and significant effects on gross domestic product (GDP), whereas the lending interest rate has a negative and significant effect on GDP. The study therefore recommended that the government encourage supplementary private investment in Nigeria by lowering the lending interest rate, which would lead to more borrowing by private investors, thereby increasing investment in the country. On these grounds, reducing the interest rate on borrowing could

stimulate more private investment, since it will encourage private investors to scrounge more, leading to increased outlays in Nigeria, and as long as investment is a component of GDP, the GDP will increase due to increased investment. The study ultimately concluded that since monetary policy tends to be more effective than fiscal policy in Nigeria to a bulky extent, the monetary authority should be swift in directing its policies to the sectors that compel economic growth foremost for development. Accordingly, the study proposes that the financial authority could bring into play an expansionary financially viable policy to lessen interest rates, encouraging additional initiatives that would subsequently spur economic growth countrywide.

Keywords: Economic growth, Fiscal policy, Interest rate, and Monetary policy

1. Introduction

Fiscal and monetary deliberate measures are two tools frequently employed to stabilize a country's macroeconomic state of affairs. The operations performed by a country's central bank to regulate the flow of credit and money through the economy to accomplish macroeconomic objectives such as price stability, output growth, and full employment are typically referred to as monetary policy (Noman & Khudri, 2015; Ezeoha & Uche, 2006; CBN, 2011). As an alternative, fiscal policy requires the use of taxes, spending, and borrowing by the government to influence a country's economic activity to realize macroeconomic goals along with output growth, price stability, and full employment (Idris & Bakar, 2017; Cyril, 2016; Adeniyi *et al*., 2020). Although different tools are used to accomplish this, the goals of both monetary and fiscal policy are the same, clearly, to promote robust, steady, and sustainable economic growth; as such, they can both work together to achieve macroeconomic stability (Adigwe *et al*., 2015). Many countries have historically relied on central banks to finance public sector deficits, with monetary policy serving as support for fiscal policy. According to Emme *et al*. (2018), fiscal policy is generally more adaptable and responsive than

monetary policy is, which makes it more effective at resolving immediate financial challenges.

Nonetheless, there has been a shift in recent years toward greater central bank independence, which has increased the potential for monetary and fiscal policy to act in tandem. This has included granting central banks more latitude to establish their own policy objectives and tools and lowering the degree to which they must support public sector deficits. The effectiveness of monetary policy may be impacted by changes in fiscal policy in a number of ways. For example, alterations in fiscal policy may affect the overall level of prices, raising doubts about the effectiveness of monetary policy as a whole. Even so, fiscal policy's short-term effects on aggregate demand may affect how well monetary policy achieves macroeconomic stability. Moreover, fiscal policy can alter the long-term framework for inflation and economic growth, which may affect how well monetary policy achieves its targets (Alabi and Olarinde, 2020).

These regulations might balance or reinforce one another in the sense that monetary policy can be affected by fiscal policy measures that change inflation, long-term economic growth, aggregate demand, and the general price level. The central bank may well adopt a tighter monetary policy in reaction to an expansionary fiscal policy to contain inflation. Some instances of such measures include raising interest rates or restricting the amount of credit available in the financial system (Ezeaku *et al*., 2020). Once again, unreasonably high interest rates may jeopardize financial and macroeconomic stability, given that the success of one policy depends on the other, coordination between the appropriate authorities is necessary for both monetary and fiscal policies to be effective. Regardless of being overseen by separate organizations, both policies are interdependent, and modifications to one may affect the total economic impact of policy changes and the efficacy of the other (Ogundipe & Akinbobola, 2020).

In attendance, there remains a contention among economists over the relative significance of the fiscal and monetary courses of action. Some contend that monetary policy has a stronger impact on

economic activity, whereas others maintain that fiscal policy is more successful. While monetarists contend that monetary policy is more thriving in fostering economic growth, Keynesians contend that fiscal policy is more effective in increasing aggregate demand and lowering unemployment (Okorie *et al*., 2017); hence, the plights of growth, stability, and structural change have not been adequately addressed by the fiscal and monetary policies of emerging nations (Bodunrin, 2016). These economies frequently experience shocks and disturbances externally, as well as within, leading to high unemployment, low income, inequality, and poverty. Nigeria's economy became mainly erratic because of its reliance on oil earnings. Owing to this dependence, there has been a decrease in foreign reserves, an increase in inflation, a high unemployment rate, low production, and unpredictable exchange rates; accordingly, Nigeria implemented a number of monetary and fiscal measures involving 1991–2021 to address a range of economic problems (Nwaogwugwu, 2018).

Nigeria faced several economic challenges in the early 1990s as a result of declining oil prices and lower revenue. This led to a major economic crisis for the country, which included high inflation, currency depreciation, and a balance of payment issues (Adeniyi *et al*., 2020). In response to these challenges, the government implemented the Structural Adjustment Program (SAP), which comprises fiscal and monetary measures designed to stabilize the economy and reduce inflation. Nigeria's economy then expanded gradually throughout the 2000s as a result of responsible budgetary and monetary policies. The Central Bank of Nigeria (CBN) established an inflation-targeting framework in 2006 in an effort to keep inflation within a target range of 6--9%. This was done because the country was experiencing several economic setbacks at the time, including the global financial crisis in 2008 and 2009, which had a negative effect on both oil prices and government revenue. As a result, the government implemented expansionary fiscal measures, raising borrowing and spending and mounting the nation's debt. The government has recently enacted several measures to increase the

efficacy of fiscal and monetary policy (Nwagbara, 2011; Nwagogwugwu, 2018; Ezeaku *et al*., 2020).

To further promote financial stability, the CBN has also developed a variety of initiatives, including a credit reporting system, a cashless policy, and a regulatory framework for mobile money services. As a result of the government's expansionary fiscal policies, which included more borrowing and spending, the national debt increased. The government went further to implement a number of reforms, including a flexible exchange rate regime, a loan-to-deposit ratio (LDR) policy to increase lending to the real sector, and the establishment of an infrastructure development fund to finance necessary projects to increase the effectiveness of monetary and fiscal policy. These are but a handful of the measures the government and CBN implemented to address these difficulties (Ogundipe & Akinbobola, 2020; Ezeaku *et al*., 2020). Despite this, Nigeria continues to face dire economic problems, such as skyrocketing inflation, low productivity, and massive unemployment.

Given these enduring obstacles, the question of which guiding principle is critical for Nigeria's economic expansion arises. This means that the study analyzed how fiscal and monetary strategies affect economic growth in Nigeria to determine the overall impact of both strategies on the country's economy. Therefore, it is appropriate for deliberate keenness to look into how Nigeria's economic growth is influenced by these financial security measures, as this necessity is undeniable. Thus, the aim of this work is to explore the immediate and long-term impacts of these actions on Nigeria's economic growth, as well as the intricate relationship between the country's fiscal and monetary regulation processes.

2. Review of Related Literature

Various nations and eras have provided varying opinions regarding the effectiveness of various monetary and fiscal policy scenarios. Copious investigations have been conducted in this field. Researchers such as Chuku (2010) used quarterly data to investigate the connections between Nigeria's fiscal and monetary policies from

1970--2008. The research revealed that Nigeria's fiscal policy is non-Ricardian, as the outcome demonstrated that Nigeria's fiscal and monetary policies interacted counteractively over the bulk of the sample period (1980--1994). Regardless of the significant accommodativeness that was publicized between 1998 and 2008, no consistent pattern of interaction among the two strategic variables was observed in the remaining periods.

Edeme *et al*. (2018) explored the impact of monetary and fiscal policies from 1986--2015 on the expansion of SMEs in Nigeria. According to the study, monetary policy did not significantly affect the growth performance of Nigerian SMEs as much as fiscal policy did. This suggests that, to encourage the expansion of SMEs nationwide, the Nigerian government may need to concentrate more on fiscal policy initiatives such as tax breaks or increased government investment. The study also suggested that monetary policy might not be as successful in encouraging the growth of SMEs in Nigeria.

Furthermore, to analyze the relationships between monetary policy variables (money supply, interest rates, and exchange rates) and the state of the economy, Ogundipe & Akinbobola (2020) used an autoregressive distributed lag (ARDL) bounds testing approach. The empirical findings suggest that while the money supply and exchange rate have considerable positive long-term effects on economic growth, there is a significant short-term positive association between them. Conversely, the research indicates that interest rates have an adverse effect on economic growth over the short and long terms. Therefore, the study concluded that if policymakers apply the monetary policy variables addressed in the analysis in an appropriate manner, they may be used to increase economic growth in Nigeria.

Nigeria's fiscal policies and economic growth from 1970--2014 were examined by Ogunbiyi & Okoye (2016). The study revealed that while government spending on social and community services and tax revenue had a positive and significant relationship with gross domestic product, government spending on economic services and the fiscal deficit had a positive but insignificant relationship with GDP. In contrast, government spending on transfer

and administration had a weak and unfavorable correlation with economic growth. According to the study, government spending on tax revenue, social and community services, and economic services was more successful at fostering economic growth than was spending on economic services and the budget deficit; alternatively, spending on administration and transfer could actually impede economic growth.

Analyzing a quarterly time series from 1981--2012, Okorie *et al*. (2017) reported that both fiscal and monetary policy tools significantly increase income. This research was performed in a similar manner to determine the relative effectiveness of monetary and fiscal policies in Nigeria. Therefore, both policies are crucial instruments for promoting Nigeria's economic development and progress. Similarly, a study by Idris & Bakar (2017) assessed how fiscal activities affected Nigeria's macroeconomic growth. According to the report, fiscal operations failed to provide the macroeconomic conditions required for Nigeria's sustained growth. The dramatist argued that, because of a lack of budgetary restraint and improper handling of public funds, the government's fiscal strategy had failed to spur economic growth. According to the study, Nigeria needs more effective fiscal policy measures to support long-term economic growth and development.

Additionally, a study on the effect of monetary policy on economic growth in Nigeria was carried out by Ayodeji & Oluwole (2018). The study focused on the relationships between the money supply and exchange rates and economic growth. The results of the study revealed that both factors had a slight and statistically negligible effect on economic growth. This implies that monetary policy in Nigeria might not be as effective as it could be at fostering economic growth, indicating the need for additional policies to ensure the nation's continued economic augmentation.

Using the autoregressive distributed lag (ARDL) technique, Umar & Murtala (2020) assessed the effects of fiscal policy on economic development in Nigeria from 1981--2017. The results proved that taxes and government expenditure has large short- and

long-term effects on Nigeria's economic growth. The study also revealed that taxes had a less favorable effect on economic growth than did government spending. The study ultimately concludes that the Nigerian government should concentrate on using fiscal policy to boost economic growth, notably by increasing expenditure on areas such as infrastructure development that have a stronger multiplier effect on economic growth.

Nigeria's fiscal policy's effect on economic growth was examined by Mogaji *et al*. (2020). A vector autoregression (VAR) model was utilized in this study to study the connections among taxation, government spending, and economic growth. The study's findings indicated that, although there was a positive correlation, it was not statistically significant between government spending and economic growth. In contrast, the analysis revealed a statistically significant negative correlation between taxes and economic growth. The study concluded that fiscal policy could influence Nigeria's economic growth, but decision-makers need to carefully weigh the right amount of tax and spending.

The affiliation between Nigeria's fiscal policies and economic growth was observed by Alabi & Olarinde (2020). According to the study, taxes and government expenditure both significantly impacted Nigeria's economic growth; taxes had a negative effect, whereas government spending had a favorable effect. Moreover, various sectors are affected unevenly by the influence of fiscal policy on economic growth, with the service sector being more positively impacted by government expenditure than other sectors are. Furthermore, the union between Nigeria's unemployment rate and fiscal policy was examined by Ezeaku *et al*. (2020) via an autoregressive distributed lag (ARDL) bounds testing method. According to the study, taxes had a substantial favorable effect on unemployment rates only in the short term, but government spending had a large negative effect on the country's jobless rate over the long term. The study additionally revealed that distinct industries were affected substantially by fiscal policy, with government spending

having a greater detrimental effect on unemployment rates in the industrial and service sectors than in the agricultural sector.

Macroeconomic policies and the behavior of the Nigerian stock market were both studied by Nwaogwugwu (2018). According to the study, monetary and fiscal policies both have long- and short-term statistically significant impacts on the stock market. Specifically, the study revealed that government spending and taxing, along with the money supply and interest rate, had a large effect on the stock market. This finding indicates that macroeconomic policy in Nigeria has the potential to greatly affect stock market performance and implies that, for investors to formulate prudent investment decisions, they may have to closely monitor any changes in the macroeconomic course of action.

Gap in Literature

According to the literature evaluation, the affiliation flanked by these stailization policies and economic growth is still unclear and appears to be specific to the nation being studied, the technique employed, and the financial policy variables chosen. At this point, most research employs ordinary least squares or vector autoregressive (VAR) methods as the analytical framework; nevertheless, the drawback of these techniques is the imposition of certain outcome limits, which might hinder sound inference, particularly for emerging countries. Moreover, the autoregressive distributed lag (ARDL) was used in the majority of these investigations, and the majority of the analyzed studies used the money supply, exchange rate, interest rate, and inflation rate as tools for monetary policy. This is highly deceptive since the aforementioned variables are budgetary target variables and ought not to be utilized as tools for regulating the economy.

3. Methodology

Theoretical Framework

The aggregate production function, which is a representation of the Solow growth theory, serves as the theoretical foundation for this work as viz.

$$Y = f(K, L) \text{ ---------- (1)}$$

where
Y = Aggregate output,
K = Capital stock (both human and physical), and
L = Labor force or population.

Owing to the Solow model, stable states are reached as a consequence of progression in both the production function and the inputs into production (labor and capital). To ascertain their effect on economic activity, the model also takes into account other monetary and fiscal policy variables, including the broad money supply, lending interest rate, government spending, and tax income. Nonetheless, because the study examines the external impact of fiscal and monetary policy on economic growth, the production function is homogenous within the economy.

$$Y = f(K, L, MS, LR, GE \& TR) \text{ ---------- (2)}$$

The broad money supply, lending interest rate, government spending, and tax revenue are represented by K, L, MS, LR, GE, and TR, respectively.

Model Specification

Economic theory and other applicable information regarding the phenomenon under study served as the foundation for the specification of an econometric model, according to Koutsoyiannis (1973). On the basis of that supposition, this research, as previously stated, employed the Solow growth theory because of its close relationship and functional connection to the current study. As a result, the study employed the Solow and Swan (1956) model with a few minor modifications, including the broad money supply, lending interest rate, government spending, and tax income as explanatory variables. The model becomes more robust as a result; hence, the model is defined as follows:

$Y_t = f(K_t, L_t, MS_t, LR_t, GEt \text{ and } TR_t)$ ---------- (3)

Equation (4) provides the model's linear regression.

$Y_t = \beta_0 + \beta 1Kt + \beta_2 L_t + \beta_3 MS_t + \beta_4 LR_t + \beta_5 Ge_t + \beta_6 TR_t + e_t$ ------ (4)

The logarithmic version of Equation (4) is therefore as follows:

$LNY_t = \beta_0 + \beta_1 LNK_t + \beta_2 LNL_t + \beta_3 LNMS_t +$
$\beta_4 LR_t + \beta_5 LNGE_t + \beta_6 LNTR_t + e_t.$ ---------- (5)

Consequently, the elasticity of the logged variables is defined by the intercept and slope coefficients in models β1–β6, where t represents the time period.

where

Y_t - Gross Domestic Product (₦'Billion)
K_t - Gross Capital Formation (N billion)
L_t - Labor (using total number of employees)
MS_t - Broad Money Supply (N billion)
LR_t - Lending interest rate (%)
GE_t - Government Expenditure (N billion)
TRt - Tax Revenue (N billion)

Hypothesis

A priori expectations state that GDP should be positively correlated with each of the following: labor, broad money supply, government spending, tax revenue, and gross capital formation; in contrast, GDP and the lending interest rate should be negatively correlated (Ajayi & Aluko, 2016).

Table 1: A' Prior Expectations

Explanatory Variables	Symbols	Hypothesis	Expected Sign
Gross Capital Formation	K_t	Gross capital formation is directly related to gross domestic product.	+
Labor	L_t	Labor is directly related to gross domestic product.	+
Broad Money Supply	MS_t	Broad money supply is directly related to gross domestic product.	+
Labor	LR_t	Lending interest rate has an inverse relation with gross domestic product.	-
Broad Money Supply	GE_t	Government expenditure is directly related to gross domestic product	+
Tax Revenue	TR_t	Tax Revenue has a direct relation with gross domestic product	+

Sources and methods of data collection

The research utilized time series data spanning the years 1992--2021, which encompassed the prestructural adjustment program (Pre-SAP) and poststructural adjustment program (Post-SAP) phases. These data are from the World Bank's World Development Indicators (WDI, 2021) and the Statistical Bulletin (2021) of the Central Bank of Nigeria.

4. Results and Discussion

Pre-Estimation Results

Descriptive statistics, correlation analysis, unit root tests, and Johansen cointegration analysis results make up the preestimation data.

Table 2: Descriptive statistics results

	LNY	LNK	LNL	LNM2	LR	LNGE	LNTR
Mean	10.04503	22.62042	17.22849	6.359565	17.58468	5.766398	4.825228
Median	9.81902	22.01337	17.17639	6.3507	17.58000	6.35258	5.215057
Maximum	10.94221	25.02128	17.60818	9.82548	29.80000	8.824264	7.894083
Minimum	9.33092	21.22738	17.01672	2.582644	7.7500000	2.065558	0.893298
Std. Dev.	0.348966	1.064421	-0.00379	2.284815	4.690714	2.040981	2.252123
Skewness	0.193016	0.565371	0.33164	-0.13427	0.189858	-0.57299	-0.49001
Kurtosis	1.496231	1.958095	1.649515	1.401145	3.572695	1.514881	1.423618
Jarque-Bera	3.373061	4.505127	3.583525	2.84337	0.727919	3.204033	3.239237
Probability	0.03246	-0.10488	-0.04919	0.018344	0.694919	-0.01768	-0.02087
Sum	378.8661	844.1556	644.6542	242.5039	650.0032	220.5567	185.7334
Sum Sq. Dev.	10.64908	57.35542	1.185964	222.075	791.1008	180.5918	216.2646

Source: Author's Computation

Table 2 presents the descriptive statistics for the following seven variables: LR, LNGE, LNTR, LNY, LNK, LNL, and LNM2. The mean, median, maximum, and minimum values of the natural logarithm of the real gross domestic product (LNY) are 10.04503, 9.81902, and 9.33092, respectively, with a standard deviation of 0.348966. The positive skewness of LNY and a kurtosis greater than 1 both point to a leptokurtic distribution, which is slightly skewed to the right in the distribution of LNY. The mean and median values for the remaining variables are also shown in the table. The standard deviation of LNK, or the natural logarithm of capital stock, is 1.064421, whereas its mean value is 22.62042. The mean value of LNL, or the natural logarithm of the labor force, is 17.22849. Its standard deviation is 0.196212. In contrast to the lending interest rate (LR), which has a standard deviation of 4.490714 and a mean value of 17.39468, LNM2, or the natural logarithm of the broad money supply, has a standard deviation of 2.284815 and a mean value of 6.359565; even as the standard deviation is 2.040981, the mean value of LNGE, or the natural logarithm of government spending, is 5.766398. Ultimately, the natural logarithm of tax revenue, or LNTR, has a mean value of 5.766398 and a standard deviation of 2.040981. The values for skewness and kurtosis for the remaining variables are

likewise shown in the table. As such, the Jarque–Bera test statistic and associated probability are provided for each variable. When considering the variables collectively, the descriptive statistics reveal nonnormal distributions with different levels of skewness and kurtosis.

Table 3: Correlation Matrix

	LNY	LNK	LNL	LNM2	LR	LNGE	LNTR
LNY	1						
LNK	0.76138	1					
LNL	0.78265	0.79516	1				
LNM2	0.78390	0.62763	0.48787	1			
LR	0.09624	-0.31246	0.00647	0.17276	1		
LNGE	0.38644	0.52728	0.48836	0.07888	0.24892	1	
LNTR	0.48252	0.54976	0.18333	0.18789	0.22476	0.38452	1

Source: Author's Computation

The correlation matrix for the variables considered in the study is displayed in Table 3. For each pair of variables, the pairwise correlation coefficients are highlighted in the table. Given that each value on the diagonal equals one, it should be assumed that a variable has a perfect correlation with itself. The degree of the linear relationship among the variables is apparent in the remaining entries. With correlation coefficients of 0.762, 0.783, and 0.784, the table demonstrates that there is a significant positive link between the dependent variable, LNY, and the independent variables, LNK, LNL, and LNM2. These variables should be a part of the regression model since they have a strong correlation with the dependent variable. Lower correlation values indicate a weaker relationship between LNY and the other variables, i.e., LR, LNGE, and LNTR. Every variable has a positive relationship with every other variable, with the exception of LR, which has a weakly positive correlation with the other variables. Furthermore, there is no discernible problem with multicollinearity among the variables because the pairwise correlation coefficient for the variables is less than 0.80.

Table 4: Unit Root Test Result using Augmented Dickey Fuller (ADF)

Variable	Level		First Difference		
	ADF Critical Value	*p* value	ADF Critical Value	*p* value	Status
LNY	-0.03335	0.9541	-3.34095	0.0201**	I(1)
LNK	-0.45907	0.8865	-4.81682	0.0004*	I(1)
LNL	-0.94176	0.9938	-4.19243	0.0021*	I(1)
LNM2	-1.03563	0.7288	-3.494802	0.0139**	I(1)
LR	-0.47685	0.6002	-9.41815	0.0000*	I(1)
LNGE	-1.23342	0.6481	-7.21466	0.0000*	I(1)
LNTR	-0.70553	0.8318	-7.34572	0.0000*	I(1)

Source: Author's Computation

Note: *, ** and *** represent the 1%, 5% and 10% levels of significance, respectively, or are worth

The outputs of the augmented Dickey-Fuller (ADF) test for the unit root are presented in Table 4. ADF evaluation is a commonly used technique to assess whether time series data are stationary. The variables in this table are tested across the level and the first difference. The result is presented as I(0) or I(1), depending on whether the variable is stationary at the level or after the first difference in value. Considering an order of integration of I(1), the first difference p values for LNY, LNM2, LR, LNGE, and LNTR are less than 0.05, revealing that the variables are stationary at the first difference.

Additionally, the p values for the initial differences in LNK and LNL are less than 0.05, suggesting that the variables have an order of integration of I(1) and are stationary at the first difference. The ADF statistically critical values are provided for the 1%, 5%, and 10% significance levels, which exceed the critical thresholds for LNY, LNM2, and LNGE at all three levels. These variables are nonstationary at the level indicated by the significance thresholds. The variables have become stationary, however, as the ADF statistic is less than the critical value at all three significance levels following the initial differencing. At the 5% significance level, the ADF statistic for

LNK, LNL, LR, and LNTR is smaller than the critical value, suggesting that these variables are stationary at the level. The variables are stable if, after first distinction, the ADF statistic is less than the critical value at all three significance levels. In summary, all of the variables remain stable after the initial differencing, indicating that they are of order one, or I (1).

Table 5: Johansen Cointegration Result (Trace & Max-Eigen)

Hypothesized No. of CE(s)	Trace Statistic	Prob.**	Max-Eigen Statistic	Prob.**
None*	179.8984	0.0000**	51.87279	0.0101**
At most1*	128.0166	0.0001**	41.2809	0.0351**
At most2*	86.72667	0.0011**	33.40708	0.0555
At most3*	53.31059	0.0131**	27.58574	0.0486
Atmost4	25.71586	0.0136	19.60642	0.0792
Atmost5	6.100438	0.6814	4.073908	0.8493
Atmost6	2.017531	0.1534	2.017531	0.1534

Source: Author's Computation
Note: ** indicates a 5% level of significance or importance

The conclusions from the Johansen cointegration test suggest that the variables eventually migrate together. The unrestricted cointegration rank test (highest eigenvalue) encouraged two cointegrating vectors in the model. Nevertheless, the unrestricted trace rank test indicated four integrating vectors in the model, according to the trace statistic results. Both the maximum eigenvalue and the trace statistics values were below the crucial values. Additionally, the p values were greater than 0.05, confirming this result. The end result suggested a long-term relationship between the equation's two cointegrating variables.

4. Results and Discussion

The Johansen cointegration and group unit root validated the long-term link between the variables and the stationary state of each variable. For these reasons, the empirical analysis and discussion rely on the error correction model (ECM), which can be seen in Table 6, as the most appropriate approach.

Table 6: Error correction model representation

Variables	Dependent Variable: LNY Coefficient	Std. Error	t-St statistics	Prob.
Gross Capital Formation D(LNK(-1)	3.104122	0.21834	4.3267	0.0011*
Labor D(LNL (-2))	0.438611	-0.01395	2.072145	0.0711***
Broad Money Supply D (LNM2(-1)	0.461516	0.22271	1.072171	0.0570***
Lending Interest Rate D(LR(-1))	-0.04037	-0.01359	-2.05712	0.0071*
Government Expenditure (LNGE(-2)	-0.01385	-0.01159	0.663619	0.5001
Tax Revenue D(LNTR(-1))	-0.04091	-0.00608	-1.70881	0.1021
ECM(-1)	-0.326401	0.144454	-1.96528	0.0620**
C	-0.05492	0.013023	-1.14132	0.2710
R-squared	0.795102	Mean dependent var		-0.053199
Adjusted R-squared	0.774551	S.D dependent var		0.560511
S.E. of regression	0.622076	Akaike info criterion		-37.264821
Sum squared resid	11.48721	Schwarz criterion		-42.708556
Log likelihood	-30.2138	Hannan-Quinncriter.		1.964569
F-statistic	8.088011	Durbin-Watsonstat		2.025311
Prob (F-statistic)	0.01329*			

Source: Author's Computation

Note: *, ** & *** denote the 1%, 5% & 10% levels of significance, respectively.

The results of the analysis show that the speed of adjustment, or the ECM value, is -0.326401. In addition to the standard error, the rate of adjustment was significant at the 5% percentile. Approximately 32.64% of the disequilibrium caused by the shock of that year returned to long-run equilibrium in the present year. In addition, the ECM converges to an equilibrium speed of 32.64% and is statistically significant and suitably signed. In other words, 32.64% of the short-run differences are taken into account and integrated into the long-run relationship. It follows that changes in gross capital creation, total employment, the broad money supply, lending interest rates, government spending, and tax revenue affect the present value of GDP. These findings also demonstrate that the lending interest rate, total number of employees, broad money supply, and gross capital formation all have an impact on Nigeria's economic growth; however, the lending interest rate has a significant negative effect on GDP, whereas the total number of employees, gross capital formation, and broad money supply all positively impact GDP.

This implies that Nigeria's GDP will expand by 3.104122% for every 1% increase in gross capital creation. Similarly, the coefficient for the total number of employees was 0.457611, indicating that an increase in the total number of employees as a percentage would lead to an increase in the gross domestic product of 0.438611 percent. Nigeria's GDP will expand by 0.461516 percent if the broad money supply increases by 1%, whereas the GDP will decrease by 0.04037 percent if lending interest rates rise by 1%. The results of this investigation prove that fiscal policy is ineffective but that monetary policy is effective. Ultimately, the independent variable explained 70.51% of the dependent variable, with an R-squared value of 0.795102, and 77.35% of the dependent variable explained 70.51% of the dependent variable, with an R-Bar-squared value of 0.774551. Additionally, it is possible to estimate the Durbin Watson value of 2.025311 to be 2, which implies that the model did not contain autocorrelation. The overall significance of the model can be assessed by the F statistic of 8.088011 [P<.01].

5. Conclusions and policy recommendations

This study examined how monetary and fiscal measures affected Nigeria's economic growth between 1992 and 2021 by means of an error correction model (ECM). A variety of significant factors influence Nigeria's economic growth, including lending interest rates, total employment, gross capital formation, and the size of the money supply. Gross capital formation, total employment, and the broad money supply all had positive and significant effects on GDP, but lending interest rates had a negative and significant influence. The R-squared value of 0.795102 illustrates that 79.51% of the dependent variable was explained by the independent variables; however, the adjusted R-squared value of 0.77451 suggests that 77.51% of the dependent variable is determined by the independent factors. The conclusions of this study led to the following policy recommendations:

i. In addition to its sister strategy of exploiting monetary policy tools, the government of Nigeria should employ fiscal policy tools to ensure stability in the country's economy. This is because a balanced toolkit of fiscal and monetary policy could facilitate the creation and execution of robust economic policies. How swiftly and effectively these policies innovate, support, or aid Nigeria's economic growth will determine how effective they are.
ii. The government should encourage supplementary private investment in Nigeria by lowering the lending interest rate, which would lead to more borrowing by private investors, thereby increasing investment in the country. On these grounds, reducing the interest rate on borrowing could stimulate more private investment, since it will encourage private investors to scrounge more, leading to increased outlays in Nigeria, and as long as investment is a component of GDP, the GDP will increase due to increased investment.
iii. Monetary authorities should use prudence while regulating the cash reserve ratio and the monetary policy rate to have a large effect on the general interest rate, which has an inverse

relationship with investment and a favorable impact on the real growth of the economy.

iv. The tools available to fiscal policy makers are insufficient to guide Nigeria's economy. As a result, the report recommends that the government supplement its existing strategy of using monetary policy tools with fiscal policy tools to ensure stability in the Nigerian economy.

v. The ultimate goal of fiscal policy should be to sustain economic expansion and growth. Therefore, the government should abstain from taking on additional debt, as this could complicate payments and eventually hurt the national economy.

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