Macroeconomic Policies and Unemployment in Nigeria

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Abstract

The study investigates the influence of macroeconomic policies on unemployment in Nigeria from 1981 to 2022, employing the Johansen Cointegration Test and Vector Error Correction Model (VECM) approach. The Johansen test reveals a long-run relationship among the macroeconomic variables considered. However, the results of the Vector Error Correction Mechanism indicate that the variables under study (Government Expenditure (GEXP), Tax Revenue (TAXREV), Government Transfer Payment (GTRF), Money Supply (MS), and Lending Rate (R)) do not exhibit significance and do not affect unemployment in Nigeria. As a recommendation, the study suggests that the government should ensure that transfer payments such as NPOWER, TRADERMONI, FARMERMONI, and Pension payments are appropriately directed to achieve desired outcomes.

Key words: *Macroeconomic policy, unemployment*

1.1 Background to the Study

Unemployment and inflation are the dual challenges plaguing the Nigerian economy, echoing a global trend where unemployment has emerged as a prominent concern for nations (Isiaka, et al, 2011). While some level of unemployment is inevitable in an economy characterized by diverse sectors, maximizing the employment of the labor force is crucial for fostering higher economic growth. Full employment is a key macroeconomic objective, indicating that both human and capital resources are fully utilized (Gbosi, 2011).

To achieve full employment, policymakers rely on two primary macroeconomic policies: fiscal policy and monetary policy. These policies serve as essential tools for regulating the economy and attaining key macroeconomic objectives such as sustainable economic growth, price stability, exchange rate stability, full employment, and external balance. Fiscal policy involves

government interventions through spending and taxation to provide public goods, redistribute income, and stabilize aggregate demand (Oye, 2018). Conversely, monetary policy, managed by the Central Bank, utilizes tools like interest rates, exchange rates, and money supply to stabilize prices, output, and the financial system.

Given their significance, governments and central banks continually adjust policy targets to steer the economy towards its optimal state. Taxation stands out as a primary fiscal policy tool for tackling unemployment. High taxes reduce consumers' disposable income, leading to decreased consumption. This reduction in consumer spending can dampen business revenues, potentially leading to reduced hiring or even layoffs as firms seek to cut costs. In response, governments often employ tax cuts to stimulate economic growth and alleviate unemployment. By putting more money into consumers' hands, tax cuts can spur increased spending, business expansion, and ultimately, job creation.

2. Literature Review

2.1 Conceptual Clarification

2.1.1 Unemployment

A consensus exists regarding the definition and application of the concept of unemployment. According to the International Labour Organization (2007), as cited in Akanbi (2015), unemployed individuals are those who are currently not employed but are willing and available to work for pay, actively seeking employment opportunities. John (1982) estimated that in the United States in 1970, over a quarter of the labor force was either unemployed or underemployed, as indicated by the estimation of underemployment based on hours worked.

2.1.3 Types of Unemployment

1. **Seasonal Unemployment**: This type of unemployment predominantly occurs in the industrial sector and in occupations that are subject to seasonal variations. These activities entail workers being temporarily unemployed during peak periods. For instance, during the rainy season, many individuals engaged in fishing and construction may halt work due to inclement weather. Fishing activities, for example, are typically suspended during the rainy season in numerous regions of Nigeria. Similarly, during the Christmas season, businesses employ additional staff for the surge in seasonal sales. However, these additional workers are often let go when the demand for goods declines.
2. **Structural Unemployment**: Structural unemployment arises when certain industries contract due to long-term changes in economic conditions. Globalization has significantly contributed to structural unemployment in many countries. This type of unemployment occurs due to a mismatch between the skills possessed by unemployed individuals and the skills demanded by employers. Unlike cyclical unemployment, structural unemployment is caused by factors unrelated to the business cycle. It occurs when fundamental shifts in the economy make it challenging for some individuals to secure employment.
3. **Frictional Unemployment:** Frictional unemployment is another form of unemployment prevalent within an economy. It refers to the period between jobs when an individual is searching for or transitioning to a new job. Frictional unemployment persists to some extent in every economy and arises when there is a mismatch between

available jobs and job seekers. This mismatch can be attributed to various factors such as skills, payment, working hours, location, seasonal industries, personal preferences, and other considerations. Frictional unemployment is influenced by individuals' voluntary decisions regarding work based on their evaluation of their own worth compared to prevailing wage rates, as well as the time and effort required to secure employment.

4. **Classical Unemployment**: Classical unemployment occurs when wages are excessively high. This concept of unemployment was prominent in economic theory before the 1930s when workers were criticized for refusing lower wages or demanding higher wages. Classical unemployment is also known as real wage unemployment.

2.1.4 Money supply:

The money supply serves as a crucial gauge, aiming to establish the correlation between money circulation and the broader economic indicators, particularly unemployment, to mitigate fluctuations in global economic activity (Alhamdany & Obaid, 2020). Defined by the Central Bank of Nigeria (CBN, 2011), monetary policy encompasses specific measures adopted by the central bank to regulate the value, availability, and cost of money within the economy, all geared towards achieving predefined macroeconomic objectives. This policy framework involves leveraging variables and instruments such as money supply and interest rates to shape economic activities and accomplish established goals (Alege, Ayobami & Ejemeyovwi, 2021).

According to the definitions provided by the Central Bank of Nigeria (CBN), money supply encompasses two categories: narrow money (M1) and broad money. Narrow money, comprising currency in circulation and current account deposits held with commercial banks domestically, represents the more immediate and liquid forms of money. Conversely, broad money encompasses the total money supply in the economy, including narrow money alongside savings, time deposits with banks, and foreign currency deposits (CBN, 2006).

When the quantity of money circulating within the economy surpasses the overall output level, an excess of money supply occurs. This surplus can disrupt the stability of the price system, leading to inflationary pressures or elevated prices of goods and services (CBN, 2006). Therefore, maintaining an optimal balance in money supply is vital to ensure stability and prevent adverse economic outcomes such as inflation.

2.1.5 Interest rate:

The interest rate denotes the percentage at which commercial banks extend loans to the public, essentially representing the cost or price of capital for investment purposes. Traditionally, interest rates serve as a key indicator of the stance of monetary policy. They play a pivotal role in transmitting changes in the money supply to the real economy. Consequently, interest rates are closely scrutinized when evaluating monetary policy decisions.

Interest rates serve as a crucial mechanism through which alterations in the money supply influence economic activity. By adjusting interest rates, central banks can expedite the transmission of monetary policy measures. This is particularly significant as changes in interest rates impact aggregate demand, a fundamental driver of economic activity. Therefore, the focus on interest rates when assessing monetary policy is justified, as they serve as an effective

conduit for implementing and evaluating policy adjustments. In essence, fluctuations in the growth of the money supply lead to corresponding changes in market interest rates, underscoring the interconnectedness between monetary policy actions and interest rate dynamics.

2.1.6 Government Expenditure:

Government expenditure refers to the funds disbursed by a government, encompassing expenses at various levels of governance, ranging from local municipalities to federal bodies. This spending encompasses diverse categories, including procurement of goods and services, investments, and financial transfers.

During periods of economic downturn, characterized by high unemployment rates, diminished demand, and reduced output of goods and services, governments may adopt an expansionary fiscal policy. This involves increasing government expenditure to stimulate aggregate demand. Such measures are typically implemented during recessions to bolster economic activity and mitigate the adverse effects of unemployment.

Conversely, in scenarios where the objective is to curb inflation or address balance of payment deficits, governments may opt for a contractionary fiscal policy. This strategy involves reducing government expenditure and raising taxes to dampen aggregate demand. These measures are typically undertaken during periods of inflationary pressures or when there is a shortfall in the balance of payments. Government spending on various programs serves as a tool for managing unemployment. By investing in initiatives aimed at job creation and economic stimulation, governments can effectively address unemployment challenges within the economy. Therefore, government expenditure plays a pivotal role in shaping economic policy responses and influencing the overall trajectory of unemployment levels.

2.2 Theoretical Literature

2.2.1 Theories of Unemployment

The relationship between fiscal, monetary policies, and unemployment has been extensively discussed by scholars since the eighteenth century. However, this study focuses primarily on the Keynesian theoretical framework.

Keynesian Theory of Unemployment:

The ideas put forth by British economist John Maynard Keynes in the 1930s have had a profound impact on macroeconomic thought, particularly concerning unemployment, money supply, and inflation, as outlined in his seminal work, "The General Theory of Employment, Interest and Money" published in 1936. Keynesian unemployment, also known as demand-deficient unemployment, occurs when there is insufficient aggregate demand in the economy. This type of unemployment fluctuates with the business cycle and can persist, as evidenced during the Great Depression of the 1930s. Cyclical unemployment increases during economic downturns and decreases when the economy improves. Keynes argued that this form of unemployment arises due to inadequate effective demand, leading to decreased production, stagnant wages, and mass unemployment.

According to Keynesian theory, employment is contingent upon effective demand, which results in increased output, income generation, and ultimately, employment opportunities. Effective demand is determined by aggregate supply and demand functions. While the aggregate supply function remains stable in the short run, Keynes focused on the aggregate demand function to combat depression and unemployment. Employment hinges on aggregate demand, which is influenced by both consumption and investment demand. Keynes posited that employment can be boosted by stimulating consumption and/or investment. Consumption, denoted as C(y), increases with rising income, leading to higher savings. Strategies to augment consumption include elevating the propensity to consume, thereby enhancing income and employment levels. Additionally, Keynes emphasized the role of investment in driving employment.

Nigeria has been significantly affected by unemployment. Government agencies and parastatals have imposed employment embargoes, while governmental reforms have led to the disengagement of a substantial number of workers from public service. The banking sector has also faced challenges, resulting in mass layoffs to sustain operations. Keynesian economists argue that the number of unemployed laborers exceeds available job opportunities due to mismatches in the economy. They associate this theory with frictional unemployment, wherein cyclical variables contribute to the friction. Keynesian economists advocate government intervention, particularly deficit spending, to stimulate employment and aggregate demand, along with policies aimed at encouraging private investment.

2.3 Empirical Literature

Several studies have explored the relationship between macroeconomic policies and unemployment in Nigeria, employing various econometric techniques and focusing on different policy variables.

Alege, Ayobami, and Ejemeyovwi (2021) utilized the Autoregressive Distributed Lag (ARDL) estimation method to analyze the impact of government capital expenditure, currency in circulation, and real GDP on unemployment in Nigeria. Their findings suggest that government capital expenditure reduces unemployment in the long run, while currency in circulation and real GDP contribute to reducing the unemployment rate in both the short and long term.

Baghebo and Azebi (2021) employed the ARDL Bound Test technique to investigate the effects of fiscal and monetary policy variables such as money supply, interest rate, government expenditure, and taxes on unemployment in Nigeria. They found no long-run relationship between the variables, with only lagged unemployment having a positive and significant impact on unemployment in the short run.

Onwuka (2021) used Vector Autoregressive (VAR) modeling to examine the influence of fiscal and monetary policies on unemployment in Nigeria using data from 1981 to 2020. The study revealed that government expenditure and interest rates negatively and significantly affected unemployment rate at lag period 2, while money supply had a positive and significant impact at lag period 1. The findings underscored the importance of government expenditure, money supply, and interest rates in determining unemployment rate in Nigeria.

Anthony and Ukpere (2015) investigated the impact of fiscal and monetary policies on unemployment in Nigeria from 1980 to 2013 using classical least squares and Error Correction Model (ECM). They found that government expenditure, money supply, and exchange rates had positive and significant effects on unemployment, while government revenue had a negative and insignificant impact. Additionally, increases in interest and exchange rates were found to exacerbate unemployment by raising production costs and discouraging private sector employment.

Akanbi (2015) analyzed the impact of macroeconomic variables on Nigerian unemployment using a Vector Autoregressive (VAR) approach. The study revealed that positive shocks to Gross Domestic Product (GDP) increased unemployment rate, while shocks to foreign direct investment, inflation rate, money supply, and lending rate reduced unemployment rate. The findings underscored the importance of diversifying the economy and promoting local processing of crude oil to create employment opportunities.

Dogan (2021) investigated the influence of macroeconomic variables on unemployment in Turkey using the Vector Autoregressive (VAR) model. The study found that GDP growth, export growth, and inflation had negative impacts on unemployment, while exchange rate, interbank interest rate, and money growth showed positive impacts. These findings were consistent with the Phillips Curve and Okun's Law relationships.

In light of the reviewed empirical evidence, it is evident that previous studies have predominantly focused on individual policy implications for unemployment in Nigeria. However, there is limited empirical evidence on the combined impact of fiscal and monetary policies. Therefore, this study aims to contribute to the literature by considering a holistic approach covering a 42-year period and integrating all possible instruments of macroeconomic policies, including government transfer payments, as productive fiscal measures to address unemployment in Nigeria. Additionally, this study extends the scope of analysis to include data up to 2022, which has not been explored in previous studies.

3. Methodology

This section encompasses the research design, data sources, nature of data collection, model specification, description and justification of variables, model evaluation, and method of analysis.

3.1 Research Design

Research design (RD), as defined by Osuagwu (2008), serves as a framework guiding the collection, analysis, and interpretation of data. It determines the scope of generalizability of research findings and addresses questions of whom to study, what to observe, when to observe, and how to collect data. Kerlinger (1964) further characterizes research design as the plan, structure, and strategy for research investigation aimed at obtaining answers to research questions and controlling variance. It delineates the nature and source of data, analysis methods, sampling processes, and consideration of variables. For this study, the ex-post facto research design was adopted due to the observational nature of the variables, which have already occurred over a period of time and are not manipulated.

3.2 Data Sources and Nature of Data Collection

The study utilizes time series annual data obtained from secondary sources, including the Central Bank of Nigeria statistical bulletin and the National Bureau of Statistics. The data cover the period from 1981 to 2022, spanning 42 years.

3.3 Model Specification

This study is grounded in the Keynesian theory of unemployment. The specification of an appropriate econometric model is informed by economic theory, prevailing circumstances, and data availability. Drawing on the work of Egbulonu and Amadi (2016), Onwuka (2021), and Alege, Ayobami & Ejemeyovwi (2021), with minor modifications, the functional and econometric model for this study is as follows:

$$UNEMP = f(GEXP, TAXREV, GTRF, MS, R, ER, RGDP) \quad 3.1$$

$$UNEMP = \rho + \pi_1 GEXP + \pi_2 TAXREV + \pi_3 GTRF + \pi_4 MS + \pi_5 ER + \pi_6 R + \pi_7 RGDP + \mu \quad 3.2$$

In the specified model, the variable UNEMP represents the unemployment rate, while GEXP stands for government total expenditure, TAXREV denotes tax revenue, GTRF represents government transfer payment, MS indicates broad money supply, ER signifies exchange rate, R represents market lending rate, and RGDP stands for real gross domestic product. Additionally, μ represents the random term. This model aims to examine the relationship between these variables and their impact on unemployment in Nigeria. The apriori expectation of the variables is positive ($\pi_{2,6} > 0$; $\pi_{1,3,4} < 0$).

3.6 Method of Data Analysis and Estimation Technique

The analysis commences with the examination of descriptive statistics for the unemployment rate and selected macroeconomic variables to assess the normality of their distribution. Subsequently, recognizing the inherent issue of non-stationarity in time series data, which can lead to spurious coefficient estimates when using conventional ordinary least squares, the study conducts stationary tests to ascertain the order of integration of the data variables. This information guides the selection of appropriate econometric techniques for analysis. As emphasized by Shrestha and Bhatta (2018), the results of stationary tests inform researchers about the suitable method of analysis.

The unit test results, employing both the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests for cross-validation, reveal that all the macroeconomic variables used in the study are stationary at the first difference (order of integration I(1)). Consequently, this necessitates the utilization of Johansen cointegration analysis. Subsequently, the results of the Johansen cointegration test allow for the application of the Vector Error Correction Mechanism (VECM) method of analysis, followed by the Vector Error Correction (VEC) Granger Causality test to ascertain the relationship between unemployment and other macroeconomic variables.

Vector Error Correction Mechanism (VECM)

This study employs the Vector Autoregressive (VAR) model to explore the interrelationships among fiscal policy, monetary policy, and the unemployment rate in Nigeria. The utilization of the VAR technique is motivated by the seminal work of Nobel Laureate Christopher Sims (1986), as cited in Onwuka (2021), demonstrating its efficacy in investigating interrelationships among non-stationary time-series variables and generating reliable forecasts.

The vector error correction (VEC) model is a special case of VAR tailored for variables that exhibit stationarity at their first differences (i.e., I(1)), as observed in the variables of this study. Additionally, the VEC model can account for any cointegrating relationships among the variables.

Thus, the VAR model for the study is specified base on the variables of the study:

$$UMEMP_t = \alpha_0 + \sum\alpha_1 UMEMP_{t-1} + \sum\alpha_2 GEXP_{t-1} + \sum\alpha_3 TAXREV_{t-1} + \sum\alpha_4 GTRF_{t-1} +$$

$$\sum\alpha_5 MS_{t-1} + \sum\alpha_6 R_{t-1} + \sum\alpha_7 ER_{t-1} + \sum \alpha_8 RGDP_{t-1} + U_t \quad 3.3$$

Where,

UMEMP = Unemployment

GEXP = Government Expenditure

GTRF = Government Transfer Payment

MS = Money Supply

R = Lending Rate

ER = Exchange Rate

RGDP = Real Gross Domestic Product

Ut = Error Term

$\alpha 1 - \alpha 8$ = Coefficient of the Variables

Subsequently, a Pairwise Granger Causality test was conducted to unveil the direction of causality among the variables utilized in this study. Additionally, a test for structural breaks using CUSUM Squared was performed to ascertain if any structural changes occurred during the period under review. Lastly, various diagnostic tests, including the VECM Normality test and Autocorrelation test, were conducted as part of the study's analytical framework.

4. Results and Discussion

Subsequently, a Pairwise Granger Causality test was conducted to unveil the direction of causality among the variables utilized in this study. Additionally, a test for structural breaks using CUSUM Squared was performed to ascertain if any structural changes occurred during the period under review. Lastly, various diagnostic tests, including the VECM Normality test and Autocorrelation test, were conducted as part of the study's analytical framework.

Table 4.1: Descriptive statistics of unemployment rate and selected macroeconomic variables

	UMEMP	ER	GEXP	GTRF	MS	R	RGDP	TAXREV
Mean	13.36095	123.8160	2754.583	981.1098	8955.114	17.17071	38974.05	1374.045
Median	12.65000	125.0000	1018.100	296.3000	1387.640	17.10000	28999.80	500.9000
Maximum	32.50000	423.0000	13426.10	5943.630	42931.78	29.80000	73789.39	6600.000
Minimum	1.900000	0.610000	9.600000	3.860000	14.47000	7.750000	16211.49	3.000000
Std. Dev.	8.983154	117.3916	3573.873	1465.863	12900.99	4.600309	21034.43	1827.201
Skewness	0.584805	0.965988	1.460387	2.029039	1.326354	0.348241	0.521149	1.369799
Kurtosis	2.316698	3.184497	4.326732	6.530403	3.446047	3.587123	1.625485	3.971265
Jarque-Bera	3.211053	6.591500	18.00949	50.63055	12.66269	1.452150	5.207436	14.78532
Probability	0.200784	0.037040	0.000123	0.000000	0.001780	0.483804	0.073998	0.000616
Sum	561.1600	5200.270	115692.5	41206.61	376114.8	721.1700	1636910.	57709.90
Sum Sq. Dev.	3308.579	565011.8	5.24E+08	880989 22	6.82E+09	867.6767	1.81E+10	1.37E+08
Observations	42	42	42	42	42	42	42	42

Source: Author's computation from Eviews 10.

Table 4.1 provides an overview of the data utilized in this research. It reveals that during the period from 1981 to 2022, the lowest recorded unemployment rate in Nigeria was 1.9 percent, while the highest reached 32.5 percent. On average, the unemployment rate stood at 13.36 percent over this period. Analysis of the unemployment data (UMEMP) suggests a normal distribution, as indicated by the Kurtosis and Jarque-Bera statistics values of 2.31 and 3.21, respectively. Moreover, the probability value associated with the Jarque-Bera statistic for UMEMP (0.20), exceeding 0.05, further supports the conclusion of normal distribution for the unemployment data during the study period. It is noteworthy that the data for the unemployment variable (UMEMP) exhibits positive skewness, evidenced by a skewness statistic value of 0.58. Figure 4.1 below presents a graphical representation of the unemployment variable, offering insight into its dynamics throughout the study period.

4.1 Unit Root Test Results

Having established the descriptive characteristics of the collected data for each of the variables

utilized in the study, it is imperative to ascertain the stationarity properties of the series, as is customary in time series analyses. This is essential to prevent drawing policy recommendations from erroneous or meaningless estimation output. Additionally, understanding the stationarity properties of the series helps guard against the estimation of an incorrect model or the adoption of an inappropriate estimation technique. Consequently, the stationarity properties of all the series in the model presented in equations 3.1 and 3.2 in Chapter Three of this study have been assessed using both the Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests for cross-validation, with the results summarized in Table 4.2 below. Detailed results are provided in the appendix section of this study.

Table 4.2: Unit root test result (ADF and PP tests)

	Augment Dickey-Fuller Test				Phillips-Perron Test				
Series	Levels	First Diff.	5% C.V	Ord. of Int.	Levels	First Diff.	5% C.V	Ord. of Int.	Decision
ER	-0.407	-5.491	-3.526	I(1)	-0.413	-5.686	-3.526	I(1)	Accept
Log(GEXP)	-0.404	-8.078	-3.526	I(1)	-0.780	-7.954	-3.526	I(1)	Accept
Log(GTRF)	-2.363	-8.704	-3.526	I(1)	-2.177	-9.930	-3.526	I(1)	Accept
Log(MS)	-1.277	-4.026	-2.936	I(1)	-0.504	-4.178	-3.526	I(1)	Accept
R	-3.405	-6.541	-3.529	I(1)	-3.308	-10.418	-3.526	I(1)	Accept
Log(RGDP)	-1.886	-3.857	-3.526	I(1)	-2.944	-3.686	-3.526	I(1)	Accept
Log(TAXREV)	-0.880	-4.772	-3.536	I(1)	-1.429	-8.183	-3.526	I(1)	Accept
UMEMP	-2.170	-4.782	-3.526	I(1)	-2.297	-4.782	-3.526	I(1)	Accept

Source: Author's computation from Eviews 10

Table 4.2 presents the unit root test results for the variables of the study using both the Augmented Dickey-Fuller and Phillips-Perron Tests. As depicted in Table 4.2, none of the variables in the study exhibited stationarity in their original level forms, indicating the absence of a unit root in these forms. However, upon differencing once, all the series demonstrated stationarity. Consequently, all variables in the study attained stationarity after first differencing, suggesting they are stationary of order one (i.e., I(1)). Given that all variables are stationary of I(1), it is adequate to test for their long-run properties. Therefore, the Johansen cointegration test was conducted, and the findings are presented in Table 4.3 below.

Table 4.3: Johansen Co-integration test result

Date: 08/11/23 Time: 16:23

Sample (adjusted): 1983 2022
Included observations: 40 after adjustments
Trend assumption: Linear deterministic trend
Series: UMEMP TAXREV GEXP GTRF MS R ER
RGDP
Lags interval (in first differences): 1 to 1

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.916028	292.3877	159.5297	0.0000
At most 1 *	0.824424	193.2969	125.6154	0.0000
At most 2 *	0.675843	123.7095	95.75366	0.0002
At most 3 *	0.565935	78.64835	69.81889	0.0083
At most 4	0.450566	45.26588	47.85613	0.0858
At most 5	0.264284	21.31121	29.79707	0.3385
At most 6	0.172413	9.034795	15.49471	0.3622
At most 7	0.035966	1.465147	3.841466	0.2261

Trace test indicates 4 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.916028	99.09089	52.36261	0.0000
At most 1 *	0.824424	69.58740	46.23142	0.0000
At most 2 *	0.675843	45.06110	40.07757	0.0127
At most 3	0.565935	33.38247	33.87687	0.0572
At most 4	0.450566	23.95467	27.58434	0.1363
At most 5	0.264284	12.27642	21.13162	0.5206
At most 6	0.172413	7.569648	14.26460	0.4241
At most 7	0.035966	1.465147	3.841466	0.2261

Max-eigenvalue test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values
Source: Author's computation using Eviews 10

The Johansen cointegration test results presented in Table 4.3 indicate the presence of three cointegrating equations. According to the trace test, the test statistics values (292.39, 193.30, and 123.71) for the first three hypothesized numbers of cointegrating equations ('none', 'at most

1', and 'at most 2') surpass their corresponding 5% critical values of 159.53, 125.62, and 95.75, respectively. This conclusion is further supported by the probability values (0.000, 0.000, and 0.002). Similarly, the maximum eigenvalue test results reveal three cointegrating equations, with the max-eigen statistics values (99.09, 69.59, and 45.06) for the first three hypothesized numbers of cointegrating equations surpassing their corresponding 5% critical values of 52.36, 46.23, and 40.08, respectively. This is also confirmed by the probability values (0.000, 0.000, and 0.013). Consequently, the null hypothesis of 'no cointegrating equation' for the Johansen test is rejected using both the trace and maximum eigenvalue tests. Based on the above findings, it is concluded that a long-run relationship exists among the variables utilized in this study. However, establishing cointegration is a necessary condition, with the sufficient condition requiring the coefficient of the error correction term in the cointegration form to be negative and statistically significant. Therefore, the Vector Error Correction Model (VECM) is estimated to obtain and assess the status of the error correction term. Given that the primary aim of this study was to investigate the impact of macroeconomic variables on the unemployment rate in Nigeria, all variables were assumed to be endogenous. With the presence of cointegrating equations, the Vector Error Correction Model (VECM) was estimated, and the results are presented in Table 4.4 below.

Table 4.4: Vector Error Correction result

Dependent Variable: D(UMEMP)
Method: Least Squares (Gauss-Newton / Marquardt steps)
Date: 08/11/23 Time: 16:27
Sample (adjusted): 1983 2022
Included observations: 40 after adjustments
D(UMEMP) = C(1)*(UMEMP(-1) - 85.1734803078*TAXREV(-1) +
34.5971097219*GEXP(-1) - 13.9004112863*GTRF(-1) +
6.78178956495*MS(-1) + 102.59152154*R(-1) + 83.7658653787*ER(
-1) - 0.74996064627*RGDP(-1) - 6730.84392588) + C(2)*D(UMEMP(
-1)) + C(3)*D(TAXREV(-1)) + C(4)*D(GEXP(-1)) + C(5)*D(GTRF(-1)) +
C(6)*D(MS(-1)) + C(7)*D(R(-1)) + C(8)*D(ER(-1)) + C(9)*D(RGDP(-1)) +
C(10)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	1.32E-05	3.80E-05	0.348500	0.7299
C(2)	0.011753	0.186177	0.063130	0.9501
C(3)	0.004735	0.003509	1.349530	0.1873
C(4)	-0.003068	0.002360	-1.299951	0.2035
C(5)	0.006767	0.005504	1.229563	0.2284
C(6)	-0.000593	0.000702	-0.845501	0.4045
C(7)	0.035694	0.143716	0.248365	0.8055

C(8)	-0.030675	0.033592	-0.913151	0.3684
C(9)	0.000489	0.000425	1.151544	0.2586
C(10)	0.079808	1.004596	0.079443	0.9372

R-squared	0.342045	Mean dependent var	0.595000
Adjusted R-squared	0.144659	S.D. dependent var	3.774186
S.E. of regression	3.490543	Akaike info criterion	5.550310
Sum squared resid	365.5168	Schwarz criterion	5.972530
Log likelihood	-101.0062	Hannan-Quinn criter.	5.702971
F-statistic	1.732871	Durbin-Watson stat	2.118387
Prob(F-statistic)	0.124746		

Source: Author's computation using Eviews 10.

In Table 4.4, the error correction term is denoted by C(1). The coefficient of the error correction term is 1.32E-05 with a probability value of 0.7299. Notably, the coefficient of the error term is positive rather than negative, and the probability exceeds 0.05. Consequently, the sufficient condition for the existence of a long-run equilibrium relationship between the dependent variable and the independent variables of the model is not met. In light of this, a model specified and estimated after first differencing to ascertain the presence of a short-run dynamic relationship in the model. Additionally, the results of autocorrelation and heteroscedasticity tests are presented to confirm the adequacy of the model.

Table 4.5: Breusch-Godfrey Serial Correlation LM Test:

F-statistic	1.136034	Prob. F(1,29)	0.2953
Obs*R-squared	1.507874	Prob. Chi-Square(1)	0.2195

Source: Author's computation using Eviews 10.

The findings presented in Table 4.5 indicate an Observed R-squared value of 1.51 with a probability Chi-square value of 0.22. Given that the p-value exceeds the 5% level of significance, the null hypothesis, suggesting no serial correlation in the model, is accepted. Consequently, the study concludes that there is no evidence of serial correlation in the model.

Table 4.6 Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	0.713094	Prob. F(16,23)	0.7544
Obs*R-squared	13.26320	Prob. Chi-Square(16)	0.6534
Scaled explained SS	39.80156	Prob. Chi-Square(16)	0.0008

Source: Author's computation using Eviews 10.

The analysis from Table 4.7 indicates that the Prob. Chi-Square (16) value is 0.65, surpassing the 5% (0.05) significance level. Consequently, the null hypothesis is accepted, indicating the absence of heteroscedasticity in the model.

Table 4.7: First Difference Model – Short -Run

Dependent Variable: D(UMEMP)
Method: Least Squares
Date: 08/11/23 Time: 16:32
Sample (adjusted): 1984 2022
Included observations: 39 after adjustments

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.004989	1.106344	-0.004509	0.9964
D(UMEMP(-1))	0.328752	0.225892	1.455351	0.1563
D(UMEMP(-2))	0.167475	0.205349	0.815563	0.4214
D(TAXREV)	-0.001188	0.003185	-0.372940	0.7119
D(GEXP)	0.004439	0.002414	1.839101	0.0762
D(GTRF)	4.64E-05	0.005277	0.008795	0.9930
D(MS)	-0.000606	0.000694	-0.873597	0.3895
D(R)	0.207598	0.161281	1.287179	0.2082
D(ER)	-0.035479	0.040017	-0.886593	0.3826
D(RGDP)	9.19E-05	0.000557	0.165086	0.8700

R-squared	0.196196	Mean dependent var	0.571795
Adjusted R-squared	-0.053261	S.D. dependent var	3.820632
S.E. of regression	3.921058	Akaike info criterion	5.787155
Sum squared resid	445.8661	Schwarz criterion	6.213709
Log likelihood	-102.8495	Hannan-Quinn criter.	5.940199
F-statistic	0.786492	Durbin-Watson stat	2.002169
Prob(F-statistic)	0.630619		

Source: Author's computation using Eviews 10.

The first difference model is estimated to identify if any short-run dynamics exist between the independent variables and the dependent variable employed in the study. **4.2 Short-Run Interactions Between Macroeconomic Variables and Unemployment in Nigeria**

According to the analysis from Table 4.8, the probability values associated with all the explanatory variables (TAXREV, GEXP, GTRF, MS, R, ER, and RGDP) are 0.71, 0.08, 0.99, 0.39, 0.21, 0.38, and 0.87, respectively. Each of these values exceeds the 5% (0.05) threshold for statistical significance. Therefore, none of the explanatory variables demonstrate statistical significance. Additionally, the probability value of the F-statistic (0.786) surpasses the 5% (0.05) level, indicating that collectively, the explanatory variables lack an impact on the annual dynamics of unemployment in Nigeria.

Table 4.8 a: VEC Granger Causality/Block Exogeneity Wald Tests

Sample: 1981 2022
Included observations: 40

Dependent variable: D(UMEMP)

Excluded	Chi-sq	df	Prob.
D(LOG(GEXP))	0.073407	1	0.7864
D(LOG(GTRF))	0.051055	1	0.8212
D(LOG(TAXREV))	1.318464	1	0.2509
D(LOG(MS))	0.021957	1	0.8822
D(R)	0.723303	1	0.3951
D(ER)	0.858086	1	0.3543
D(LOG(RGDP))	0.198096	1	0.6563
All	3.302343	7	0.8557

Source: Author's computation using Eviews 10

The outcomes in Table 4.8a exhibit the VEC Granger causality findings concerning the relationship between unemployment rate and the various macroeconomic variables utilized in this investigation. The probability values associated with each macroeconomic variable in the model are not statistically significant, as they all exceed 0.05. This indicates that government expenditure (GEXP), government transfer payments (GTRF), tax revenue (TAXREV), broad money supply (MS), market lending rate (R), exchange rate (ER), and real gross domestic product (RGDP) do not exert a Granger causality effect on the unemployment rate in Nigeria.

Despite these results, it remains imperative to verify the causal relationship across all other vectors in the VAR process as estimated in Table 4.4. These subsequent findings are outlined in Tables 4.8b, 4.8c, 4.8d, 4.8e, 4.8f, 4.8g, and 4.8h.

Table 4.8 b: VEC Granger Causality/Block Exogeneity Wald Tests
Dependent variable: D(LOG(GEXP))

Excluded	Chi-sq	df	Prob.
D(UMEMP)	10.84150	1	0.0010
D(LOG(GTRF))	0.203713	1	0.6517
D(LOG(TAXREV))	0.039687	1	0.8421
D(LOG(MS))	3.430547	1	0.0640
D(R)	8.847078	1	0.0029
D(ER)	0.034154	1	0.8534
D(LOG(RGDP))	0.463940	1	0.4958

All	24.48117	7	0.0009

Source: Author's computation using Eviews 10

The VEC Granger causality analysis in Table 4.8b reveals the presence of a causal relationship between the unemployment rate (UMEMP) and government expenditure (GEXP), indicated by the probability value associated with UMEMP (0.0010) being less than 0.05. Thus, the null hypothesis of no causality between UMEMP and GEXP is rejected. Similarly, a causal relationship is observed between the market lending rate and government expenditure, with its corresponding probability value (0.0029) also falling below 0.05.

However, Table 4.8b does not specify the direction of causality. This will be elucidated in the subsequent section, detailed in Table 4.6 below.

Table 4.8 c: VEC Granger Causality/Block Exogeneity Wald Tests
Dependent variable: D(LOG(GTRF))

Excluded	Chi-sq	df	Prob.
D(UMEMP)	1.364340	1	0.2428
D(LOG(GEXP))	5.217708	1	0.0224
D(LOG(TAXREV))	2.881591	1	0.0896
D(LOG(MS))	0.007731	1	0.9299
D(R)	0.017023	1	0.8962
D(ER)	0.306004	1	0.5801
D(LOG(RGDP))	2.366212	1	0.1240
All	11.51380	7	0.1177

Source: Author's computation using Eviews 10

The results in Table 4.8c present the VEC Granger causality analysis between government transfer payments (GTRF), unemployment rate (UMEMP), and other macroeconomic variables utilized in this study. Notably, all the probability values associated with UMEMP and the respective macroeconomic variables are not statistically significant, as they exceed 0.05. This indicates an absence of causality between government transfer payments (GTRF), unemployment rate (UMEMP), tax revenue (TAXREV), broad money supply (MS), market lending rate (R), exchange rate (ER), and real gross domestic product (RGDP) in Nigeria.

Furthermore, their joint p-value of 0.1177, also surpassing the 0.05 threshold, supports the conclusion that there is no causal relationship among these variables in the Nigerian context.

Table 4.8 d: VEC Granger Causality/Block Exogeneity Wald Tests
Dependent variable: D(LOG(TAXREV))

Excluded	Chi-sq	df	Prob.

D(UMEMP)	0.594043	1	0.4409
D(LOG(GEXP))	1.385435	1	0.2392
D(LOG(GTRF))	0.048108	1	0.8264
D(LOG(MS))	7.197315	1	0.0073
D(R)	0.365453	1	0.5455
D(ER)	0.018399	1	0.8921
D(LOG(RGDP))	0.150609	1	0.6980
All	10.21634	7	0.1766

Source: Author's computation using Eviews 10

The results shown in Table 4.8d illustrate the VEC Granger causality examination involving government tax revenue (TAXREV), unemployment rate (UMEMP), and other macroeconomic variables considered in this study. Evidently, all the probability values linked to UMEMP and the respective macroeconomic variables are statistically insignificant, exceeding the threshold of 0.05. This implies the absence of causality between government tax revenue, unemployment rate, and the other macroeconomic variables within the Nigerian context.

Moreover, the joint p-value of 0.1766, surpassing the significance level of 0.05, provides additional evidence supporting the conclusion that there is no causal relationship among these variables in Nigeria.

Table 4.8 e: VEC Granger Causality/Block Exogeneity Wald Tests
Dependent variable: D(LOG(MS))

Excluded	Chi-sq	df	Prob.
D(UMEMP)	0.032056	1	0.8579
D(LOG(GEXP))	0.481668	1	0.4877
D(LOG(GTRF))	0.266839	1	0.6055
D(LOG(TAXREV))	3.432074	1	0.0639
D(R)	1.447999	1	0.2288
D(ER)	0.057278	1	0.8109
D(LOG(RGDP))	2.474266	1	0.1157
All	6.705525	7	0.4602

Source: Author's computation using Eviews 10

The findings presented in Table 4.8e reveal the VEC Granger causality analysis between broad money supply (MS), unemployment rate (UMEMP), and other macroeconomic variables considered in this study. Notably, all the probability values associated with UMEMP and the respective macroeconomic variables are statistically insignificant, exceeding the threshold of 0.05. This suggests an absence of causality between broad money supply, unemployment rate, and the other macroeconomic variables in the Nigerian context.

Furthermore, the joint p-value of 0.4602, which surpasses the 0.05 threshold, provides further evidence supporting the conclusion that there is no causal relationship among these variables in Nigeria.

Table 4.8 f: VEC Granger Causality/Block Exogeneity Wald Tests
Dependent variable: D(R)

Excluded	Chi-sq	df	Prob.
D(UMEMP)	0.134667	1	0.7136
D(LOG(GEXP))	0.016682	1	0.8972
D(LOG(GTRF))	0.326698	1	0.5676
D(LOG(TAXREV))	0.231656	1	0.6303
D(LOG(MS))	1.626649	1	0.2022
D(ER)	0.015541	1	0.9008
D(LOG(RGDP))	1.099697	1	0.2943
All	3.697799	7	0.8139

Source: Author's computation using Eviews 10

The analysis presented in Table 4.8f outlines the VEC Granger causality examination between market lending rate (R), unemployment rate (UMEMP), and other macroeconomic variables considered in this study. Notably, all the probability values associated with UMEMP and the respective macroeconomic variables are statistically insignificant, exceeding the threshold of 0.05. This suggests an absence of causality between market lending rate, unemployment rate, and the other macroeconomic variables in the Nigerian context.

Furthermore, the joint p-value of 0.8139, which surpasses the 0.05 threshold, provides further evidence supporting the conclusion that there is no causal relationship among these variables in Nigeria.

Table 4.8 g: VEC Granger Causality/Block Exogeneity Wald Tests
Dependent variable: D(ER)

Excluded	Chi-sq	df	Prob.
D(UMEMP)	2.682326	1	0.1015
D(LOG(GEXP))	0.248993	1	0.6178
D(LOG(GTRF))	0.181807	1	0.6698
D(LOG(TAXREV))	0.215397	1	0.6426
D(LOG(MS))	0.244563	1	0.6209
D(R)	0.002829	1	0.9576
D(LOG(RGDP))	0.132003	1	0.7164
All	4.959370	7	0.6649

Source: Author's computation using Eviews 10

The findings presented in Table 4.5g illustrate the VEC Granger causality analysis between exchange rate (ER), unemployment rate (UMEMP), and other macroeconomic variables considered in this study. Notably, all the probability values associated with UMEMP and the respective macroeconomic variables are statistically insignificant, exceeding the threshold of 0.05. This indicates an absence of causality between exchange rate, unemployment rate, and the other macroeconomic variables in the Nigerian context.

Furthermore, the joint p-value of 0.6649, which surpasses the 0.05 threshold, provides further evidence supporting the conclusion that there is no causal relationship among these variables in Nigeria.

Table 4.8 h: VEC Granger Causality/Block Exogeneity Wald Tests
Dependent variable: D(LOG(RGDP))

Excluded	Chi-sq	df	Prob.
D(UMEMP)	0.598461	1	0.4392
D(LOG(GEXP))	0.022923	1	0.8797
D(LOG(GTRF))	0.025978	1	0.8720
D(LOG(TAXREV))	0.081252	1	0.7756
D(LOG(MS))	3.730115	1	0.0534
D(R)	1.643951	1	0.1998
D(ER)	0.000314	1	0.9859
All	6.562319	7	0.4758

Source: Author's computation using Eviews 10

The results presented in Table 4.8h depict the VEC Granger causality analysis between real gross domestic product (RGDP), unemployment rate (UMEMP), and the other macroeconomic variables examined in this study. It is observed that all the probability values associated with UMEMP and the respective macroeconomic variables are statistically insignificant, with values exceeding 0.05. This suggests a lack of causality between real gross domestic product, unemployment rate, and the other macroeconomic variables in the Nigerian context.

Moreover, the joint p-value of 0.4758, which surpasses the 0.05 threshold, provides additional evidence supporting the conclusion that there is no causal relationship among these variables in Nigeria.

Table 4.9: Pairwise Granger Causality Tests

Sample: 1981 2022
Lags: 2

Null Hypothesis:	Obs	F-Statistic	Prob.
ER does not Granger Cause UMEMP	40	4.21863	0.0228
UMEMP does not Granger Cause ER		1.26214	0.2956

GEXP does not Granger Cause UMEMP	40	5.27715	0.0099
UMEMP does not Granger Cause GEXP		5.44288	0.0087
GTRF does not Granger Cause UMEMP	40	3.89688	0.0297
UMEMP does not Granger Cause GTRF		1.60569	0.2152
MS does not Granger Cause UMEMP	40	2.81209	0.0737
UMEMP does not Granger Cause MS		2.73475	0.0788
R does not Granger Cause UMEMP	40	0.80844	0.4537
UMEMP does not Granger Cause R		0.65763	0.5244
RGDP does not Granger Cause UMEMP	40	7.06291	0.0027
UMEMP does not Granger Cause RGDP		0.50914	0.6054
TAXREV does not Granger Cause UMEMP	40	7.35069	0.0022
UMEMP does not Granger Cause TAXREV		1.99837	0.1507

Source: Author's computation using Eviews 10

The results displayed in Table 4.9 provide insights into the direction of causality among the variables examined in this study. Notably, a unidirectional causality is identified from exchange rate to unemployment rate, with a statistically significant F-statistic value of 4.21863 and a corresponding probability value of 0.0228, rejecting the null hypothesis that "ER does not Granger cause UMEMP".

Additionally, a bidirectional causality is observed between government expenditure and unemployment rate, indicating a two-way relationship between these variables. Both F-statistic values for the null hypotheses (GEXP does not Granger cause UMEMP and UMEMP does not Granger cause GEXP) are statistically significant, with corresponding probability values of 0.0099 and 0.0087, respectively.

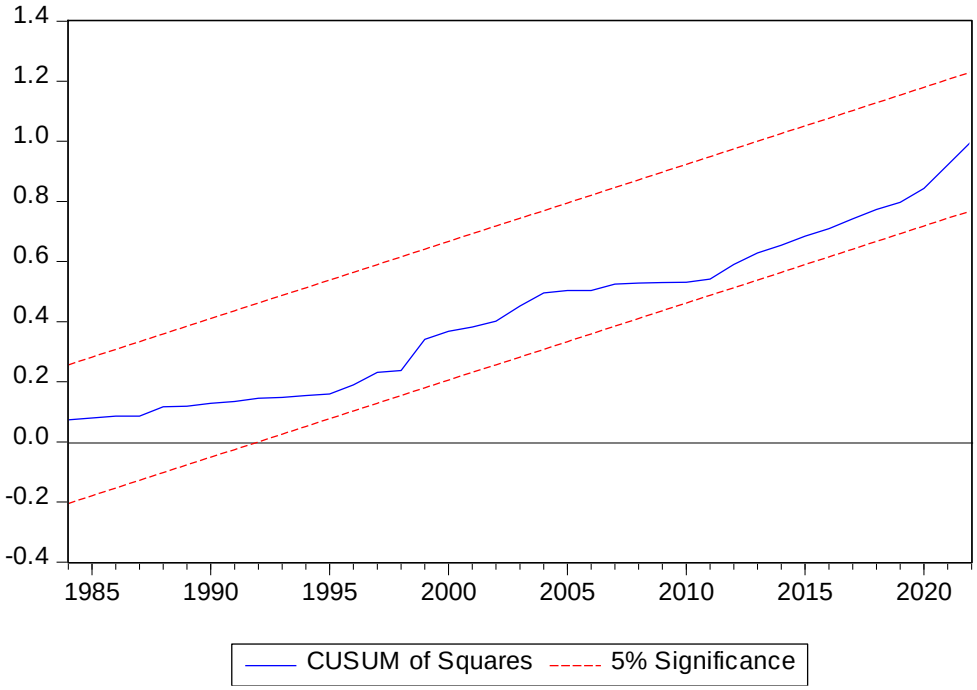
Moreover, unidirectional causality is found from government transfer payments, real gross domestic product (RGDP), and tax revenue to unemployment rate. The F-statistic values for these causal relationships are statistically significant, with corresponding probability values of 0.0297, 0.0027, and 0.0022, respectively, rejecting the null hypotheses associated with each variable.

These findings provide evidence of the dynamic relationships between the examined macroeconomic variables and unemployment rate in Nigeria, shedding light on the causal links and potential policy implications.

4.3 Test for Structural Break in the VECM

Examining structural breaks in the model is crucial due to the longitudinal nature of the data, encompassing various governmental administrations and policy shifts that might influence the model's effectiveness. Therefore, the Cumulative Sum of Squares (CUSUM Squared) test was

performed on the model to identify any structural breaks. The findings are depicted in the figure below.



Source: Author's computation using Eviews 10

Figure 4.1: CUSUM of Squares test for break points

Figure 4.1 illustrates that there are no structural breaks present in the estimated model or the associated series. The plot demonstrates that the blue line consistently falls within the upper and lower 5% critical bounds indicated by the two red lines. This observation confirms the absence of outliers in the estimated Vector Error Correction Model (VECM), indicating its suitability for making policy recommendations and predictions.

Table 4.10: VECM Normality test

VEC Residual Normality Tests
Orthogonalization: Cholesky (Lutkepohl)
Null Hypothesis: Residuals are multivariate normal
Sample: 1981 2022
Included observations: 40

Component	Jarque-Bera	Df	Prob.
1	59.18939	2	0.0000
2	1.177894	2	0.5549
3	0.077544	2	0.9620

4	1.443743	2	0.4858
5	0.022799	2	0.9887
6	2.618226	2	0.2701
7	48.30515	2	0.0000
8	1.826592	2	0.4012
Joint	114.6613	16	0.1285

*Approximate p-values do not account for coefficient Estimation

Source: Author's computation using Eviews 10

The Cholesky VECM normality test results presented in Table 4.9 assess whether the residuals of the Vector Error Correction Model estimated in Table 4.4 conform to a normal distribution. Normality of residuals is a crucial criterion for validating the efficiency and forecasting capability of a model.

According to Table 4.9, the Jarque-Bera statistic value for the joint components of the model is 0.1285, exceeding the significance threshold of 0.05. This suggests that the residuals of the estimated VECM are indeed normally distributed. Therefore, the null hypothesis stating that "the residuals are multivariate normal" is accepted.

Table 4.11: VEC Autocorrelation Test result

VEC Residual Serial Correlation LM Tests

Sample: 1981 2022
Included observations: 40

Null hypothesis: No serial correlation at lag h

Lag	LRE* stat	Df	Prob.	Rao F-stat	Df	Prob.
1	63.62643	64	0.4897	0.974308	(64, 93.0)	0.5393
2	63.85439	64	0.4816	0.978775	(64, 93.0)	0.5314

Null hypothesis: No serial correlation at lags 1 to h

Lag	LRE* stat	Df	Prob.	Rao F-stat	Df	Prob.

1	63.62643	64	0.4897	0.974308	(64, 93.0)	0.5393
2	134.3458	128	0.3330	0.937875	(128, 63.2)	0.6255

*Edgeworth expansion corrected likelihood ratio statistic.
Source: Author's computation using Eviews 10

The VEC autocorrelation results presented in Table 4.10 indicate the absence of serial or autocorrelation in the estimated model of this study. This suggests that the model is suitable for making policy recommendations.

The absence of autocorrelation is inferred from the fact that both the 'LRE statistics and Rao F-statistics' and their respective probability values exceed 0.05. This meets the required condition for accepting the null hypothesis of "No serial correlation both at lag h and lags 1 to h".

4.4 Discussion of Findings

Objective one: The investigation into the impact of government expenditure on unemployment in Nigeria revealed that government expenditure (GEXP) lacks statistical significance and does not influence unemployment in the short run. This finding aligns with previous studies by Ikechukwu, Agu & Udu (2021), Atamah, Anthony, & Ukpere (2015), and Ikechukwu, Agu (2021). However, it contradicts the findings of Baghabo and Azebi (2021), Alege, Ayobami & Ejemeyovwi (2021), and Onwuka (2021), deviating from initial expectations.

Objective two: Regarding the impact of government transfer payments on unemployment in Nigeria, the analysis revealed that government transfer payments (GTRF) lack statistical significance and do not affect unemployment in the short run. This result contradicts the anticipated outcome.

Objective three: The investigation into the impact of tax revenue on unemployment in Nigeria indicated that tax revenue (TAXREV) lacks statistical significance and does not influence unemployment during the study period in the short run. This finding is consistent with Ikechukwu, Agu (2021) but contradicts the findings of Baghabo and Azebi (2021) and Onwuka (2021).

Objective four: Analyzing the impact of money supply on unemployment in Nigeria, it was observed that broad money supply (MS) lacks statistical significance and does not impact unemployment during the study period in the short run. This result contradicts previous findings by Baghabo and Azebi (2021), Onwuka (2021), Akanbi (2015), Osigwe & Ahamba (2016), and Atamah, Anthony, & Ukpere (2015), diverging from expectations.

Objective five: Exploring the impact of the market lending rate on unemployment rate in Nigeria, it was found that the market lending rate (R) lacks statistical significance and does not influence unemployment rate in Nigeria in the short run. This finding contradicts the results of Onwuka (2021) and Osigwe & Ahamba (2016).

4.5 Hypotheses Testing

Hypothesis one: The analysis revealed that government expenditure has no statistically significant impact on unemployment rate in Nigeria at the 5% level of significance. The absolute value of the t-statistic for government expenditure (GEXP) was 1.8, which is less than 2. Therefore, the null hypothesis, stating that "government expenditure has no significant impact on unemployment rate in Nigeria," is accepted, while the alternate hypothesis is rejected.

Hypothesis two: Similarly, the examination showed that government transfer payments do not have a statistically significant impact on unemployment rate in Nigeria at the 5% level of significance. The absolute value of the t-statistic for government transfer payments (GTRF) was 0.008, less than 2. Consequently, the null hypothesis asserting "government transfer payment has no significant impact on unemployment rate in Nigeria" is accepted, while the alternate hypothesis is rejected.

Hypothesis three: The analysis indicated that there exists no statistically significant relationship between tax revenue and unemployment in Nigeria. The absolute value of the t-statistic for tax revenue (TAXREV) was 0.372, which is less than 2. Hence, the null hypothesis stating "there is no significant relationship between tax revenue and unemployment in Nigeria" is accepted, and its alternate hypothesis is rejected.

Hypothesis four: Regarding the impact of money supply on unemployment rate in Nigeria, the examination showed that broad money supply has no statistically significant impact at the 5% level of significance. The absolute value of the t-statistic for broad money supply (MS) was 0.873, less than 2. Therefore, the null hypothesis stating "money supply has no significant impact on unemployment rate in Nigeria" is accepted, while the alternate hypothesis is rejected.

Hypothesis five: Finally, the analysis revealed that the market lending rate does not have a statistically significant impact on unemployment rate in Nigeria at the 5% level of significance. The absolute value of the t-statistic for the market lending rate (R) was 1.28, which is less than 2. Consequently, the null hypothesis stating "market lending rate has no significant impact on unemployment rate in Nigeria" is accepted, while the alternate hypothesis is rejected.

Overall, the findings of this study suggest that the determinants of unemployment in developing countries such as Nigeria do not include government expenditure, tax revenues, government transfer payments, money supply, and lending rates as hypothesized by monetarists and Keynesians. Instead, the study supports the argument of several scholars who attribute unemployment in developing countries to supply-side constraints such as limited access to quality education and training programs, seasonal reliance on agriculture or tourism, inability to keep up with technological advancements, and lack of job security and social protection for informal sector workers.

5. Conclusion

Based on the findings of the study, the following conclusions were drawn:

1) Government expenditure does not exert a significant influence on the unemployment rate in Nigeria. This suggests that variations in government spending do not have a notable impact on the level of unemployment in the country.

2) Government transfer payments also do not significantly affect the unemployment rate in Nigeria. This implies that the disbursement of government transfers does not serve as a key factor influencing the unemployment rate in the country.

3) There is no statistically significant relationship between unemployment rate (UMEMP) and government tax revenue in Nigeria. This indicates that fluctuations in tax revenue do not correspond to variations in the unemployment rate within the Nigerian context.

4) Broad money supply does not play a significant role in determining the unemployment rate in Nigeria. This suggests that changes in the broad money supply do not have a substantial impact on the level of unemployment observed in the country.

5) Similarly, the market lending rate is not a significant determinant of the unemployment rate in Nigeria. This implies that fluctuations in market lending rates do not significantly influence the level of unemployment experienced in the country.

6. Recommendations

Based on the findings and conclusions of this study, several policy recommendations have been proposed:

1. The government should prioritize enhancing human capital development and upgrading physical and social infrastructure. Additionally, providing soft loans through financial institutions to both potential and existing investors can lower the barriers to entry and reduce the overall cost of doing business, ultimately leading to increased employment opportunities.
2. Tax incentives should be employed to encourage investment by reducing both personal and corporate income tax rates. This can stimulate investment activities, subsequently fostering job creation across various sectors of the economy.
3. It is imperative for the government to ensure that transfer payments are effectively targeted towards alleviating unemployment. Measures should be implemented to prevent misappropriation of funds by government officials, thereby maximizing the impact of these payments in addressing unemployment and poverty, particularly among the youth population.
4. Interest rate policies should be formulated and implemented with the aim of stabilizing the value of the national currency. Lowering interest rates can increase liquidity in the market, stimulate investment, and boost production, consequently leading to job creation and mitigating inflationary pressures.
5. Efforts must be intensified to combat corruption within government ranks. Preventing the misappropriation of public funds and redirecting spending towards sectors with high employment potential can significantly contribute to job creation and economic growth.
6. The government should broaden its scope beyond the variables examined in this study when formulating policies to address unemployment. By considering additional

factors influencing unemployment, policymakers can adopt a more comprehensive approach to tackling this issue and achieving meaningful reductions in unemployment rates.

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