IMPACT OF MONETARY POLICY ON REDUCTION OF UNEMPLOYMENT IN NIGERIA

Saheed Aliu Aladejana, *Ph.D*
Department of Economics
Fountain University, Osogbo,
Osun State, Nigeria.
+2347039557346
aladejana.saheed@fuo.edu.ng

Oluwabusola Ikeoluwa Olaosebikan
Department of Economics
Federal University, Oye Ekiti
+2347033070303
oluwabusola.fasoranti@fuoye.edu.ng

Felix Alaba Joseph
Department of Economics
Federal University, Oye Ekiti
+2348067410531
felix.joseph@fuoye.edu.ng

Corresponding author:
Saheed Aliu Aladejana, *Ph.D*
Department of Economics
Fountain University, Osogbo,
Osun State, Nigeria.
+2347039557346
aladejana.saheed@fuo.edu.ng

ABSTRACT

Unemployment remains a significant challenge in Nigeria, hindering both economic and social progress. This study investigated the impact of monetary policy on reducing unemployment in Nigeria, using data from 1990 to 2022 sourced from the World Bank Development Indicators and the Central Bank of Nigeria's Statistical Bulletin (2023). The analysis, conducted through the Ordinary Least Squares (OLS) technique, confirmed co-integration among the variables, as demonstrated by the Johansen co-integration test at a 5% significance level. The findings revealed that interest rates, exchange rates, and inflation had minimal impact on unemployment, while the money supply showed a significant positive relationship with rising unemployment. This indicated that although an increased money supply might initially stimulate economic activity, it eventually contributed to inflation and higher unemployment. Based on these results, the study recommended tighter monetary policy measures to manage the money supply effectively. It also suggested further research to explore the mechanisms through which the money supply affected unemployment, enabling more targeted policy interventions.

Keywords: *Monetary policy, unemployment, money supply, inflation, exchange rate*

Introduction

Monetary policy significantly impacts employment levels, though the effects vary depending on the country context and policy approach. In advanced economies, contractionary monetary policy shocks, such as interest rate hikes, typically narrow the employment gender gap in the short term. This occurs because men's employment tends to fall more sharply than women's (Valentina, *et al*., 2023). In the medium term, men are more likely to drop out of the labour force, further narrowing the labour force participation gap.

In developing countries like Nigeria, the impact of monetary policy on employment is less well understood. Much of the literature focuses on monetary policy's effects on inflation and output, with limited research on its direct impact on employment growth (Junankar, 2019).

Some scholars argue that in countries with less developed monetary and financial systems, the impact of monetary policy on macroeconomic variables such as inflation, investment, and growth is limited.

Additionally, the concept of "employment" in developing countries often differs from that in advanced economies. Many individuals are engaged in informal or vulnerable employment to make a living. In these contexts, employment growth tends to follow population growth rather than being directly influenced by monetary policy (Junankar, 2019). Nevertheless, monetary policy can still influence employment outcomes in developing countries. Expansionary monetary policy, which lowers interest rates and stimulates borrowing, can increase aggregate demand, leading to higher output and employment in the short run. Conversely, contractionary monetary policy, which raises interest rates and reduces borrowing, can decrease aggregate demand, resulting in lower output and employment.

The effectiveness of monetary policy in influencing employment in developing countries depends on various factors, such as the degree of financial development, the structure of the labour market, and the specific objectives and implementation of monetary policy (David, 2014). In countries with large informal sectors and significant labour market rigidities, the transmission of monetary policy to employment may be limited. In Nigeria's case, addressing high unemployment rates will likely require a comprehensive policy approach that combines monetary policy with other measures, such as fiscal policies, structural reforms, and targeted labour market interventions, (Essien *et al.,* 2016). While monetary policy can support macroeconomic stability and create an environment conducive to investment and job creation, it must be coordinated with other policies to effectively tackle the complex challenges of unemployment in the country. This raises crucial questions about how monetary policy impacts employment in the Nigerian context and as well investigating how these variables interact and influence each other within the Nigerian economic landscape.

Statement of the Problem
Unemployment in Nigeria remains a critical economic and social challenge, significantly impacting millions and hindering national development. The latest data indicates that the unemployment rate has risen to 5.0% in the third quarter of 2023, up from 4.2% in the previous quarter, marking a continuing trend of increasing joblessness despite various government interventions, (Nwankwo & Ifejiofor, 2014; NBS, 2023). Monetary policy, as a key tool of economic management, holds considerable potential to influence macroeconomic variables, including employment. However, the effectiveness of monetary policy in reducing unemployment in Nigeria has been a subject of intense debate. The complexity of the Nigerian economy—characterized by its heavy reliance on oil, fluctuating global commodity prices, and numerous

structural challenges—raises critical questions about the optimal design and implementation of monetary policies to address unemployment effectively (Essien *et al.,* 2016).

This study aims to provide rigorous empirical evidence on the impact of monetary policy on unemployment in Nigeria. By analyzing various monetary policy measures and their effectiveness in reducing unemployment, this study will offer valuable insights that can inform more nuanced and targeted policy interventions. The findings of this study will be crucial for the Central Bank of Nigeria and the government, aiding them in formulating and implementing policies that are better suited to the unique economic landscape of Nigeria. By pinpointing the monetary policy tools that have the most significant impact on employment, the study will provide actionable recommendations that can lead to more strategic and efficient policy-making. This will not only help in alleviating unemployment but also in fostering economic stability and sustainable growth.

Moreover, the study will explore specific areas where monetary policy can be most impactful, thereby guiding the strategic allocation of resources to maximize employment outcomes. This detailed analysis will enhance our understanding of the transmission mechanisms of monetary policy within the Nigerian context, shedding light on the sectors and demographics that stand to benefit the most. In conclusion, addressing the issue of unemployment in Nigeria is of paramount importance and demands urgent and effective intervention. Monetary policy, with its broad capacity to influence economic conditions, presents a significant opportunity to tackle this challenge. This study seeks to explore this potential comprehensively, offering a detailed analysis of how monetary policy can be harnessed to reduce unemployment and promote sustainable economic growth in Nigeria. By bridging the gap between policy formulation and real-world outcomes, this study will contribute to more informed decision-making processes, ultimately leading to a more resilient and prosperous economy.

Recent studies, such as those by Sa'idu & Muhammad (2015), Srithilat & Sun (2017), Ayodeji & Oluwole (2018), Ufoeze *et al*. (2018), and Idris (2019), have focused primarily on the relationship between monetary policy and economic growth. A few studies, including Essien *et al*. (2016); Egbulonu & Amadi (2016), Abubakar (2016), Okeke & Chukwu (2021), and Babalola *et al*. (2023), have investigated the relationship between monetary policy and unemployment in Nigeria. However, these studies often arrived at controversial conclusions and frequently use inappropriate variables to proxy monetary policy in Nigeria. To contribute to the existing body of knowledge, this study aims to provide a comprehensive analysis of the impact of monetary policy on reducing unemployment in Nigeria. It will investigate the interactive relationship among interest rates, money supply, and unemployment rates within the Nigerian economic

landscape, employing up-to-date data and relevant variables to accurately represent monetary policy. The study will also offer recommendations for policymakers to enhance the effectiveness of monetary policy in addressing this critical issue in Nigeria.

Objective of the Study

The broad objective is to investigate the impact of monetary policy on the reduction of unemployment in Nigeria.

Literature Review

Theoretical Framework:

This study explores the principles of Keynesian economics, developed by John Maynard Keynes, to provide a framework for analyzing the relationship between monetary policy and unemployment. Keynesian economics emphasizes the importance of aggregate demand in determining economic output and employment. In the context of Nigeria, with its persistent economic fluctuations and structural challenges, this framework proves valuable in understanding how monetary policy affects unemployment. By highlighting the role of aggregate demand, it offers insights into how monetary policy can be leveraged to reduce unemployment (Abubakar, 2016). Additionally, the Keynesian perspective explains how changes in interest rates, investment, and spending shape employment outcomes, facilitating a more precise analysis of the Nigerian economy. This approach helps policymakers design targeted interventions to address labor market issues. By grounding this study in the Keynesian framework, it aims to analyze unemployment, money supply trends, and the impact of monetary policy on unemployment in Nigeria, while exploring how interest rates and money supply interact to influence job creation and economic growth.

Empirical Review

Most recent empirical literature, such as that by Babalola *et al*. (2023), analysed the impact of monetary policy on the unemployment rate in Nigeria using quarterly time-series data from 1990(1) to 2019(3). The monetary instruments used were the monetary policy rate (MPR), cash reserve ratio (CR), and liquidity ratio (LR). Inflation (P) was added to represent a macroeconomic variable. The study applied ARDL and bound test techniques. The findings revealed that, in the longrun, monetary policy (MPR and LR) has a significant impact on the unemployment rate, though, CR did not. Furthermore, it was discovered that monetary policy has a low speed of adjusting the economy back to full employment equilibrium. Lastly, the liquidity ratio happened to be the most efficient individual instrument in both the short and longrun periods. In the longrun, apart from the liquidity ratio, the monetary policy rate has the greatest impact and is the most efficient. Also, Okeke & Chukwu (2021) examined the effect of monetary policy instruments on unemployment in Nigeria, between 1986 and 2018 and the specific objectives of the study is to find out the effect of monetary policy

rate, broad money supply, exchange rate, liquidity ratio and cash reserve ratio on unemployment. The study adopted an Autoregressive Distributed Lag technique. The study found that cash reserve ratio and monetary policy rate had positive and insignificant effect on the employment rate in Nigeria, broad money supply had positive and significant effect on the employment rate in Nigeria, exchange rate and liquidity ratio had negative and significant effect on the employment rate in Nigeria. The study concludes that monetary policy has significant effect on the rate of unemployment. Essien, *et al*. (2016) examined the link between unemployment and monetary policy in Nigeria using a vector autoregressive (VAR) framework for the period 1983q1-2014q1. The results show that a positive shock to policy rate raises unemployment over a 10-quarter period. In addition, all the variables used as proxy in the model jointly Granger cause unemployment, implying the existence of a dynamic relationship between monetary policy and unemployment in Nigeria. Moreover, Egbulonu and Amadi (2016) examined the relationship between fiscal policy and unemployment rate in Nigeria for the period 1970 to 2013. The findings show a negative relationship between fiscal policy tools (government expenditure and government debt stock) and unemployment rate in Nigeria while government tax revenue exhibited a positive relationship with unemployment rate. This means that increase in tax rate reduces employment in Nigeria. The results also reveal that, there exist a long-run equilibrium relationship between unemployment and fiscal policy in Nigeria.

Abubakar, (2016) investigated the effect of fiscal policy shocks on output and unemployment in Nigeria under the Keynesian framework by employing the Structural Vector Autoregression (SVAR) methodology to analyse annual series on the relevant variables for the period 1981-2015. Findings of the SVAR model shows shock in public expenditure as having a positive long- lasting effect on output. Revenue shock was found to exert a positive effect (lower than that of public expenditure shock) on output. However, the effect of revenue shock on unemployment was found to be negative but short-lived. The study suggested that government should restructure its spending pattern by allocating more to productive expenditure. In the same vein, it was suggested that government should harness its revenue potentials by expanding its revenue base via effective and efficient taxation system and also through diversification of its revenue base. Idris (2019) examined the relationship between monetary policy and economic growth in Nigeria using time series data covering the period of 1980 to 2017. The study employed the Ordinary Least Square (OLS) technique with the view to estimating the model coefficients and showcase the policy nexus between the variables. Result indicates the existence of long-run relationship between monetary policy indicators and economic growth. Further empirical findings showed that money supply has positive effect, while both exchange rate and interest rate have negative effect on the real GDP. Also, Nwosa (2016) examined the effect of

macroeconomic policies on unemployment and poverty rates in Nigeria from 1980 to 2013 with implication to achieving inclusive growth. The study adopted the OLS technique. The study observed that among macroeconomic policy variables only exchange rate significantly influenced unemployment rate while only fiscal policy significantly influenced and poverty rate. This implies that present macroeconomic policies in Nigeria do not guarantee the attainment of inclusive growth in Nigeria.

In addition, Sa'idu and Muhammad (2015) examined how unemployment and inflation substantially affect economic growth. The study applied OLS and Granger causality test and the findings revealed that the coefficient of inflation is positive and statistically significant while unemployment is positive but has no significant effect on economic growth. This proves that inflation substantially affect economic growth, although unemployment has little substantial effect on it. The result of causality test suggested that unemployment does not granger causes economic growth and inflation, but economic growth and inflation Granger cause unemployment, also there exist Granger causality between economic growth and inflation. Srithilat and Sun (2017) examined the impact of monetary policy on the economic development by using annual time series data from 1989-2016. Johansen Cointegration and Error Correction Model was employed to analyze the association between variables. The findings showed that money supply, interest rate and inflation rate negatively effect on the real GDP per capita in the long run and only the real exchange rate has a positive sign. The error correction model result indicated the existence of short run causality between money supply, real exchange rate and real GDP per capita. Ufoeze, Odimgbe, Ezeabalisi and Alajekwu, (2018) investigated the effect of monetary policy on economic growth in Nigeria. The natural log of the GDP was used as the dependent variables against the explanatory monetary policy variables: monetary policy rate, money supply, exchange rate, lending rate and investment. The time series data is the market-controlled period covering 1986 to 2016. The study adopted an OLS technique and the findings showed that long run relationship exists among the variables. In addition, the core finding of this study showed that monetary policy rate, interest rate, and investment have insignificant positive effect on economic growth in Nigeria. Money supply however has significant positive effect on growth in Nigeria. Exchange rate has significant negative effect on GDP in Nigeria. Money supply and investment granger cause economic growth, while economic growth causes interest rate in Nigeria. On the overall, monetary policy explains 98% of the changes in economic growth in Nigeria. Ayodeji and Oluwole (2018) examined the impact of monetary policy on economic growth in Nigeria by developing a model that is able to investigate how monetary policy of the government has affected economic growth through the use of multi-variable regression analysis. They proxied the variables of monetary policy instruments to include: Money Supply

(MS), Exchange Rate (ER), Interest Rate (IR), and Liquidity Ratio (LR). Economic growth was represented by Gross Domestic Product (income) at constant prices. Error Correction Model was introduced in the estimation in order to have a prudent model. From the result, two variables (money supply and exchange rate) had a positive but fairly insignificant impact on economic growth. Measures of interest rate and liquidity ratio on the other hand, had a negative but highly significant impact on economic growth. In addition, Engle-Granger co-integration test was done and showed the existence of a long run relationship between monetary policy and economic growth in Nigeria. The results showed the existence of a uni-directional causality between money supply and economic growth, economic growth granger causing liquidity ratio and exchange rates while a bi-directional causality exists between interest and economic growth. Inconclusion, this study offers a thorough analysis of the most recent empirical research on monetary policy and its effects on unemployment and economic growth in Nigeria, but it sometimes overwhelms the reader with a long list of conclusions without providing a critical synthesis. The overall argument's depth and clarity are restricted by the absence of critical analysis and thematic organization, which makes it challenging to derive coherent conclusions from the literature that is offered.

1. Nigeria's Unemployment rate and Money supply Trends
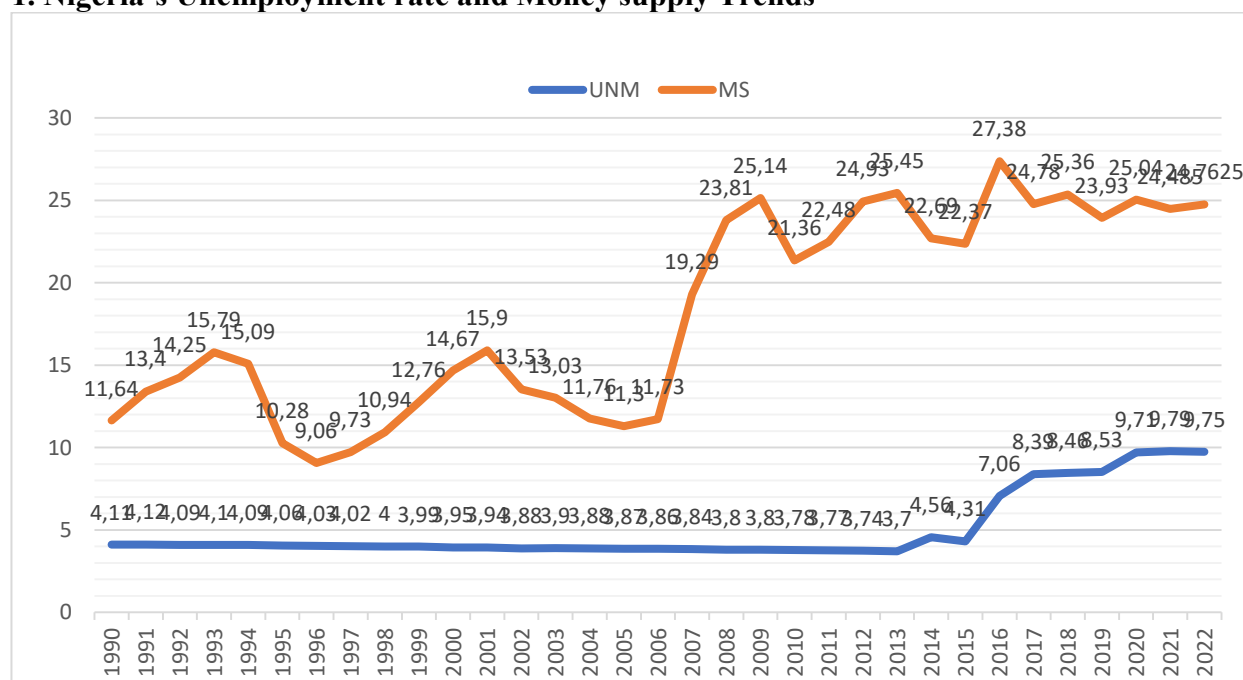
Figure 1: **Trend of Unemployment rate and Money supply in Nigeria, 1990-2022**.

Source: Data, CBN, NBS and IFS, 2023

Figure 2 shows the trend of the unemployment rate (UNM) and money supply (MS) from 1990 to 2022. From 1990 to 2004, MS exhibited moderate fluctuations, but it surged significantly between 2005 and 2008,

continuing to rise sharply before stabilizing around 2016. Despite this expansion in MS, the unemployment rate remained relatively stable and low until 2014, when it sharply increased, suggesting economic challenges that monetary expansion alone could not resolve. By 2016, UNM had nearly doubled, and even after MS stabilized, unemployment remained persistently high, indicating deeper structural issues hindering job creation.

Model Specification

In this study, the unemployment rate is the dependent variable, while monetary policy is the independent variable, proxied by interest rates, exchange rates, money supply, and inflation rates. The data, sourced from the CBN Statistical Bulletin and World Development Indicators, spans from 1990 to 2022.

Model I:

Unm=f (Int, Exr, Ms, Inf) …………………………………………………………..……………………..…..(i)

The functional form of econometric model can be specified as follows:

$$Unm = \beta_0 + \beta_1\, Int + \beta_2\, Exr + \beta_3 Ms + \beta_4 Inf + \mu \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots(ii)$$

Model II: Interaction Model

$$Unm_t = \beta_0 + \beta_1 Int_t + \beta_2 MS_t + \beta_3(Int_t * Ms_t) + \mu_t \dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots\dots.(iii)$$

Where:

Unm= Unemployment; Int = Interest rate; Exr = Exchange rate; Ms = Money supply; Inf = Inflation rate and Int*Ms = Interaction term between interest rate and money supply.

μ = Error term; $\beta_0, \beta_1, \beta_2, \beta_3, \beta_4$ are the coefficients.

The expected signs (**a-prior** expectation) of the coefficients based on economic theory:

Interest Rate: Negative (-); Exchange Rate: Ambiguous (0 or +/-); Money Supply: Negative (-); Inflation Rate: Negative (-).

Presentation and Analysis of Results

Descriptive Statistics

Table:1. Descriptive Statistics

	UNM	INT	EXR	MS	INF
Mean	4.996	3.320	109.314	18.125	18.085
Median	4.020	5.690	100.504	15.900	12.877
Maximum	9.790	18.180	273.009	27.380	72.836
Minimum	3.700	-31.450	49.763	9.060	5.388
Std. Dev.	2.065	10.139	48.821	6.073	16.108
Skewn	1.533	-1.443	1.819	0.018	2.199
Kurt	3.578	5.688	6.331	1.354	6.826
Jarque-B	13.386	21.391	33.454	3.727	46.728
Prob	0.001	0.000	0.000	0.155	0.000
Sum	164.880	109.570	3607.353	598.118	596.794
Sum Sq. Dv.	136.392	3289.289	76271.21	1180.064	8302.893
Obs	33	33	33	33	33

Source: *Researcher's Compilation, 2024 from E-view-9.*

Table 1 provides descriptive statistics for five variables: UNM (unemployment rate), INT (interest rate), EXR (exchange rate), MS (money supply), and INF (inflation rate). The mean values indicate average unemployment at 4.996%, interest rate at 3.320%, and exchange rate at 109.314. There is notable variability, with the highest unemployment rate being 9.790% and the interest rate ranging from -31.450% to 18.180%. The standard deviation is highest for interest rates, reflecting significant variability. Skewness suggests that the distributions for unemployment, exchange rate, and inflation are positively skewed, while interest rates are negatively skewed. Kurtosis and Jarque-Bera tests indicate that most variables are not normally distributed, with inflation and exchange rate showing heavy tails.

Preliminary Test
Test for Stationarity
In order to establish the order of integration of the variables of interest, the study employed Augmented Dickey Fuller (ADF) test and reported the result for the unit root test in Table 2 below.

Table 2. Results of Unit Root Test at level and 1st deference.

Variable	Test Statistic	5% critical Value	Remark	S/N	Test Statistic	5% critical value	Remark	S/N
UNM	0.959	-2.957	I(0)	NS	-4.453	-2.960	I(1)	S
INT	-2.233	-2.968	I(0)	NS	-4.358	-2.968	I(1)	S
EXR	-2.581	-2.957	I(0)	NS	-5.329	-2.960	I(1)	S
MS	-1.129	-2.957	I(0)	NS	-4.565	-2.960	I(0)	S
INF	-2.156	-2.957	I(0)	NS	-4.301	-2.964	I(0)	S

Source: Research's Compilation, 2024 from E-view-9

Table 2 presents the Augmented Dickey-Fuller (ADF) test results for both levels and first differences. All the variables (UNM, INT, EXR, MS, INF) are non-stationary at levels (I(0)) but become stationary after first differencing (I(1)). Therefore, these variables are integrated of order one, I(1), which implies they are suitable for use in models that require stationarity, such as cointegration tests.

Table 2 Correlation

	UNM	INT	EXR	MS	INF
UNM	1				
INT	0.102	1			
EXR	0.096	0.081	1		
MS	0.566	0.392	-0.124	1	
INF	-0.078	-0.827	-0.022	-0.276	1

Source: Research's Compilation, 2024 from E-view-9

The correlation table shows that unemployment (UNM) has a moderate positive correlation with money supply (0.566) but weak links with interest rate (0.102) and exchange rate (0.096) and a slight negative correlation with inflation (-0.078). Interest rate (INT) is strongly negatively correlated with inflation (-0.827)

and moderately positively correlated with money supply (0.392), with weak correlations to unemployment (0.102) and exchange rate (0.081). Exchange rate (EXR) has weak positive correlations with unemployment (0.096) and interest rate (0.081), and weak negative correlations with money supply (-0.124) and inflation (-0.022). Money supply (MS) shows a moderate positive correlation with unemployment (0.566) and a weaker positive correlation with interest rate (0.392), and weak negative correlations with exchange rate (-0.124) and inflation (-0.276). Inflation (INF) is strongly negatively correlated with interest rate (-0.827) and weakly negatively correlated with money supply (-0.276), with negligible correlations to unemployment (-0.078) and exchange rate (-0.022).

Test for Johansen Co-integration Result from the Model

The Johansen co-integration test checks for a long-run equilibrium relationship between response and explanatory variables by comparing trace and maximum eigenvalue statistics against critical values.

Table 3. Result of Cointegration Test

Variables	Trace Statistic	0.05 Critical Value	Hypothesized No of CE(S)	Prob**
UNM	148.112	69.819	None *	0.000
INT	52.539	47.856	At most 1 *	0.017
EXR	14.462	29.797	At most 2	0.814
MS	7.157	15.495	At most 3	0.559
INF	2.659	3.841	At most 4	0.103

Source: Research's Compilation, 2024 from E-view-9

*(**) denotes rejection of the hypothesis at the 5% significance level. The long-run test shows two (2) co-integrating equations at this level. Table 3 reveals that unemployment rate (UNM), interest rate (INT), exchange rate (EXR), money supply (MS), and inflation rate (INF) in Nigeria were co-integrated in the model, as the trace statistics exceed the critical value at the 5% level. Thus, the hypothesis of no co-integration is rejected.

Regression Results of Ordinary Least Square (OLS)
Table 5 the Empirical Results of OLS technique
Dependent Variable: Unemployment rate (UNM)

Variable	Coefficient	Std. Error	Prob.**
INT	-0.054	0.057	0.359
EXR	0.008	0.006	0.207
INF	-0.014	0.034	0.690
MS	0.226	0.056	0.000**
INT*MS	-0.015	0.007	0.048**
C	0.424	1.454	0.773
R-squared: 0.376			

Durbin-Watson stat:1.207

Significant at 5% (**) levels.
Source: Researcher's Computation, 2024 from E-view-9

The OLS regression analysis results for the unemployment rate (UNM) are presented in Table 5. The analysis indicates that interest rates (INT), exchange rates (EXR), and inflation (INF) do not significantly affect unemployment, with p-values of 0.359, 0.207, and 0.690, respectively. The coefficients for these variables—0.054 for interest rates, 0.008 for exchange rates, and -0.014 for inflation—are all statistically insignificant, reflecting minimal direct impact on unemployment rates. In contrast, the money supply (MS) exhibits a significant positive coefficient of 0.226 and a p-value of 0.000, indicating a substantial relationship with higher unemployment rates. This suggests that while interest rates, exchange rates, and inflation do not significantly influence unemployment, an increase in money supply may be associated with higher unemployment and could point to underlying economic challenges. This finding is consistent with previous research, including studies by Ogar *et al.* (2014), Ufoeze *et al.* (2018), Nwaogwugwu (2018), Idris (2019), Ogundipe & Akinbobola (2020), Okeke & Chukwu (2021), and Oseni & Oyelade (2023). It is also theoretically grounded in monetarist theory, particularly the work of Milton Friedman. According to this theory, changes in the money supply have a direct impact on inflation and economic activity. While a short-term increase in the money supply may temporarily boost economic output, it often leads to higher inflation over time, without necessarily reducing unemployment. Additionally, the interaction term Int*Ms shows a negative coefficient (-0.015) and a p-value of 0.048, which is statistically significant at the 5% level. This result underscores a significant interaction effect between interest rates and money supply on unemployment, with the negative coefficient suggesting that their combined effect tends to reduce unemployment. This implies that coordinated monetary policies involving adjustments in both interest rates and money supply may be more effective in mitigating unemployment, supporting job creation, and potentially lowering unemployment levels.

Test for the goodness of the model (Coefficient of Determination R^2)

The value of R-squared (R^2) is 0.376 indicates that the model explains approximately 37.6% of the variation in unemployment rates. The Durbin-Watson statistic is 1.207, suggesting potential autocorrelation in the residuals, as this value is below the recommended range of 1.5 to 2.5. The F-statistic is 4.217 with a prob(F-statistic) of 0.009, demonstrating that the overall model is statistically significant at the 5% level.
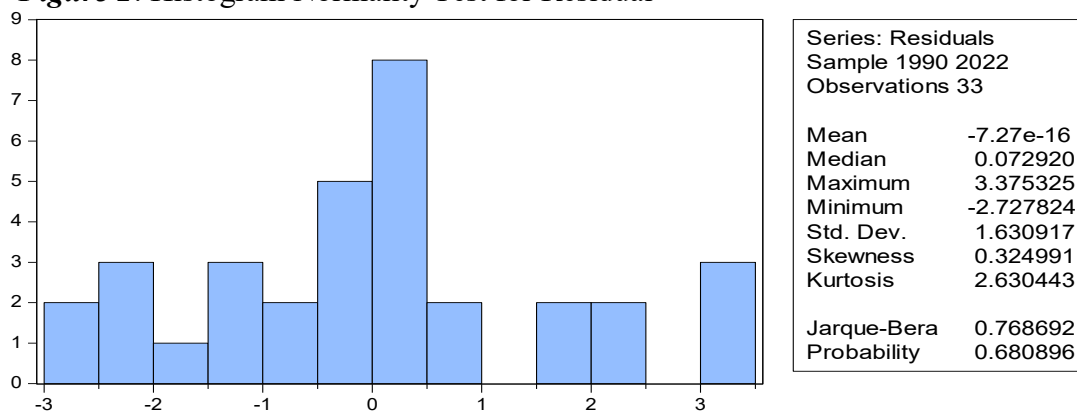
Post-Diagnostic Test
Table 6 Wald Test

Test Statistic	Value	df	Prob.
F-statistic	4.217	(4, 28)	0.009
Chi-square	16.868	4	0.002

Source: Researcher's Computation, 2024 from E-view-9

Table 6 shows that the Wald Test results include an F-statistic of 4.217 with degrees of freedom (4, 28) and a p-value of 0.009, indicating overall model significance. The Chi-square statistic is 16.868 with 4 degrees of freedom and a p-value of 0.002, further confirming the model's significance. Together, these results suggest that the model's predictors are jointly significant in explaining the variation in the dependent variable.

Normality test for Residual
Figure 2: Histogram Normality Test for Residual

Series: Residuals	
Sample 1990 2022	
Observations 33	
Mean	-7.27e-16
Median	0.072920
Maximum	3.375325
Minimum	-2.727824
Std. Dev.	1.630917
Skewness	0.324991
Kurtosis	2.630443
Jarque-Bera	0.768692
Probability	0.680896

Source: Researcher's Computation, 2024 from E-view-9

Figure 2 showed the normality test for the model. The Jarque-Bera statistic is 0.769, with a corresponding p-value of 0.681. Since the p-value is greater than the 0.05 level of significance, this implies that we fail to reject the null hypothesis of normality, indicating that the residuals are consistent with a normal distribution.

Summary, Conclusion and policy Implication

This study examined the impact of monetary policy on reduction of unemployment in Nigeria, using data from 1990 to 2022 sourced from the World Bank Development Indicators and the CBN Statistical Bulletin (2023). The study employed the Ordinary Least Squares (OLS) estimation technique. The findings indicate that the variables in the model are co-integrated, as confirmed by the Johansen co-integration test at a 5% level of significance. The analysis demonstrates that interest rates (INT), exchange rates (EXR), and inflation (INF) have no significant effect on unemployment, with p-values of 0.359, 0.207, and 0.690, respectively. The coefficients for these variables—-0.054 for interest rates, 0.008 for exchange rates, and -0.014 for inflation—are all statistically insignificant, implying a minor direct impact on unemployment rates.

The coefficient for money supply (MS) is 0.226, with a p-value of 0.000, indicating a significant positive relationship with rising unemployment rates. This suggests that, while interest rates, exchange rates, and inflation have minimal impact on unemployment, an increase in the money supply may be linked to higher unemployment, reflecting underlying economic issues. The critical takeaway is that an increase in the money supply is strongly linked to higher unemployment, highlighting potential economic issues and aligning with the theory that such increases can lead to inflation without reducing unemployment.

Recommendations

Policymakers should consider tightening monetary policy to control the money supply as a strategy to mitigate rising unemployment, given the significant positive relationship between money supply and unemployment identified in the study. Additionally, future research should delve into the underlying mechanisms through which money supply influences unemployment, particularly in the Nigerian context, to inform the development of more targeted and effective economic policies.

References

Abubakar, A.B. (2016). Dynamic effects of fiscal policy on output and unemployment in Nigeria: An econometric investigation. *CBN Journal of Applied Statistics, 7*(2),101-122.

Attamah, T., Igwe, A., Ukpere, U. (2015). The impact of fiscal and monetary policies on unemployment problem in Nigeria (managerial economic perspective). Risk governance & control: *Financial markets & institutions, 5*(2-1),101-109.

Ayodeji, A. & Oluwole, A. (2018). Impact of monetary policy on economic in Nigeria. *Open Access Library Journal* (4),1-12.

Babalola, A, Yelwa, M. & Olaniyi, O. (2023). Monetary policy and unemployment rate in developing economies: Evidence from Nigeria. *Annals of Spiru Haret University. Economic Series, 23*(3),39-62.

Chukwuemeka, N. (2022). Monetary policy and unemployment rate in Nigeria: An empirical investigation. *World Journal of Advanced Research and Reviews*,15(03),248–255.

David, M. (2014). Inflation, employment, and monetary policy: Objectives and outcomes in the UK and U.S. *Compared Journal of Money, Credit and Banking, Supplement*, 46(2),156- 168.

Egbulonu, K. G. & Amadi K. W. (2016). Impact of fiscal policy on inflation in Nigerian economy. *International Journal of Innovative Development & Policy Studies 4*(3).53-60. ISSN: 2354-2926.

Essien, S.N., Manya, G.A., Arigo, M.O.A., Bassey, K.J., Ogunyinka, S.F., Ojegwo, D.G & Ogbuchi, F. (2016). Monetary policy and unemployment in Nigeria: Is there a dynamic relationship? *CBN Journal of Applied Statistics,7*(1),209-231.

Idris, M. (2019). Monetary policy and economic growth in developing countries: Evaluating the policy nexus in Nigeria. *International Journal of Business and Economics Research, 8*(5), 290-300.

Junankar, P. N. (2019). Monetary policy, growth and employment in developing areas: A re-view of the literature, IZA discussion papers, No. 12197, *Institute of Labour Economics (IZA), Bonn,* 3-96.

National Bureau of Statistics (NBS). (2023). Labour force statistics: Unemployment and underemployment report (Q3 2023). National Bureau of Statistics.

Nwankwo, C.A & Ifejiofor, A.P. (2014). Impact of unemployment on Nigerian economic development: A study of selected Local Government Area in Anambra State, Nigeria. *European Journal of Business and Management,6*(35),103-112.

Nwaogwugwu, I. C. (2018). The effects of monetary and fiscal policy on the stock market in Nigeria. *Journal of Economics*, 6(1),79-85.

Nwosa, P. (2016). Impact of macroeconomic policies on poverty and unemployment rates in Nigeria, implications for attaining inclusive growth. *Acta Univ Danubius. Economica*, 12: 114-126.

Ogar, A., Nkamare, S. E. & Emori, E. G. (2014). Fiscal and monetary policy and its effect on growth of Nigeria economy. *European Journal of Business Management*, 6(29), 220-230.

Ogundipe, A. A. & Akinbobola, T. O. (2020). An appraisal of monetary policy on economic growth in Nigeria. *Asian Economic and Financial Review*, 10(7),765-774.

Okeke, I.C & Chukwu, K.O. (2021). Effect of monetary policy on the rate of unemployment in Nigerian economy (1986-2018). *Journal of Global Accounting, 7*(1),1-13.

Onwuka, C. E. (2021) The impact of fiscal and monetary policy on unemployment rate in Nigeria (November 9, 2021). 1-20.

Oseni, I.O. & Oyelade, A.O. (2023). The effects of monetary policies on economic growth in Nigeria. *African Journal of Economic Review*,11 (3), 13-28.

Sa'idu, B. M. & Muhammad, A. A. (2015). Do unemployment and inflation substantially affect economic growth? *Journal of Economics and Development Studies, 3*(2), 132–139.

Srithilat, K. & Sun, G. (2017). The impact of monetary policy on economic development: Evidence from Lao PDR. *Global Journal of Human-Social Science*, 17(2), 8-16.

Ufoeze, L., Odimgbe S. O., Ezeabalisi, V. N. & Alajekwu, U.B. (2018). Effect of monetary policy on economic growth in Nigeria: An empirical investigation. Annals of Spiru Haret University.Issn:2393-1795.

Valentina, F., Diego, B. P. G., Bihong, H., Lisa, K., Aina, P., & Aleksandra, Z. (2023). Monetary policy and labor market gender gaps, *IMF Working Paper Strategy, Policy and Review and Money and Capital Markets Departments*, 2-24.