Inflation–Unemployment Nexus: Testing The Phillips Curve and Stagflation Hypotheses in Nigeria

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Abstract
This study investigates the impact of inflation on unemployment in Nigeria using quarterly data from 2000 Q1 to 2025 Q4. The study employs the Autoregressive Distributed Lag (ARDL) model to capture both short-run and long-run relationships, controlling for interest rates, exchange rates, GDP growth, and foreign direct investment. The findings reveal that inflation exerts a positive and statistically significant effect on unemployment in both the short run and the long run time horizon. This contradicts the traditional Phillips Curve hypothesis, which postulates an inverse relationship between inflation and unemployment, and instead supports the stagflation hypothesis. Exchange rate exhibits a positive and statistically significant effect on unemployment in the short run, while GDP growth and FDI demonstrate negative but insignificant long-run effects. The study concludes that Nigeria is experiencing stagflationary conditions where high inflation coexists with high unemployment. Policy recommendations include addressing structural drivers of both inflation and unemployment simultaneously.

Keywords: Exchange Rate, Foreign Direct Investment, Inflation, Unemployment, Philips Curve, Stagflation Hypotheses,

1. Introduction

Countries design macroeconomic policies to control inflation and create jobs, but in today's interdependent world, domestic economic outcomes are heavily influenced by global economic shocks. In recent years, a series of global disruptions including the COVID-19 pandemic, the Russia and Ukraine War, the Israel and Palestine conflict, and rising geopolitical tensions involving the United States and Iran have significantly disrupted global production networks, trade flows, and financial markets. These shocks have intensified inflationary pressures and complicated labour market outcomes across advanced and developing economies (Al-Saadi, 2023). Inflation and unemployment remain central indicators for macroeconomic policy design and evaluation. The relationship between inflation and unemployment has important implications for stabilization policies, as countries often face the challenge of controlling inflation without worsening unemployment (Kania, 2024; Chinedu, 2022 and Mosler, 1997). According to Dao et al. (2024), three decades after price stability, world inflation surged to unexpectedly high levels in 2021 and 2022, reaching 9.5 percent year-on-year in the third quarter of 2022, up from 4.2 percent a year earlier. The phenomenon was global. Inflation in advanced economies rose from 3.5 percent to 7.9 percent over the same period, while in emerging market and developing economies, it rose from 4.9 percent to 10.8 percent. Between 2023-2024, global inflation began to decline down to 5.8% by Q4 2023 due to aggressive interest rate hikes and fading supply chain constraints. As of late 2025, the sharp decline was leveled off, with global inflation stabilizing around 3.6% with advanced economies

stabilizing around 2.7%. Certain developing regions such as Africa are still facing high albeit declining rate around 7.6 % in 2024 and higher in emerging economies like Nigeria (Nygaard and Vu, 2025). These inflationary pressures have significant labour market implications, as rising prices erode real incomes, reduce purchasing power, and constrain firms' capacity to maintain or expand employment

Nigeria reflects many of these global and regional dynamics. The country has experienced persistent and accelerating inflation, with headline inflation rising to 34.80 percent in December 2024 the highest among Africa's ten largest economies. Historically, inflation increased from 11 percent in 1981 to 16.5 percent in 2017, 22.8 percent in 2022, 28.92 percent in 2023, and 34.80 percent by December 2024 (NBS, 2025). A key driver of this trend has been the sustained depreciation of the naira, particularly since the introduction of the Structural Adjustment Programme in 1986, which intensified exchange rate volatility and contributed to cost-push inflation. Additional factors such as rising fuel prices, food inflation, and subsidy removal have further exacerbated inflationary pressures.

At the same time, unemployment remains a major macroeconomic and socio-economic challenge in Nigeria. Over the past four decades, unemployment has risen steadily, reflecting structural imbalances in the economy, particularly its dependence on the oil sector. As a capital-intensive sector, oil generates limited employment opportunities, thereby weakening the economy's capacity to absorb labor. The neglect of labor-intensive sectors such as agriculture which is our area of comparative advantage has further constrained employment generation (Dodo & Idris, 2022). According to the National Bureau of Statistics (NBS) (2025), Nigeria's unemployment rate increased from 23.1 percent in 2018 to 33.3 percent in 2020, 37.7 percent in 2022, and 40.6 percent by 2023 and the first quarter of 2024. Furthermore, structural challenges such as insecurity manifested in herder-farmer conflicts, banditry, and insurgency have disrupted agricultural production, particularly in northern Nigeria, leading to food shortages, rising rural unemployment, and increased price instability (Adeniyi, 2023). Environmental challenges, including flooding and oil spills in the Niger Delta, have also undermined rural livelihoods and employment opportunities.

Theoretically, the relationship between inflation and unemployment has long been a central issue in macroeconomic theory. The Phillips Curve, originally proposed by Phillips in 1958 and later extended by Samuelson and Solow in 1960, suggests a short-run inverse relationship between inflation and unemployment, implying a policy trade-off. However, the experience of Stagflation in the 1970s characterized by the coexistence of high inflation and high unemployment challenged this view. In response, Milton Friedman (1968) and Edmund Phelps (1967) introduced the expectations-augmented Phillips Curve and the concept of the Non-Accelerating Inflation Rate of Unemployment (NAIRU), arguing that the inflation-unemployment trade-off holds only in the short run. In the long run, unemployment converges to its natural rate as expectations adjust. Following the persistent coexistence of rising inflation and unemployment in Nigeria, there is a need to empirically re-examine the nature of the inflation-unemployment relationship. Specifically, it is important to determine whether the traditional Phillips Curve trade-off holds or whether stagflationary dynamics better explain observed macroeconomic outcomes in Nigeria. This study therefore investigates the inflation-unemployment nexus in Nigeria with a view to testing the validity of the Phillips Curve and stagflation hypotheses.

2. Literature Review

2.1 Theoretical Review

The Philips curve is associated with the work of Philips (1958) who established an inverse relationship between wage inflation and unemployment in the United Kingdom. This relationship was later extended to cover price inflation, forming the conventional Philips curve framework. The early Keynesians suggested a stable trade-off between inflation and unemployment, thereby offering policymakers a list of macroeconomic choices. Governments could, in principle, tolerate higher inflation to achieve lower unemployment, or vice versa. However, subsequent theoretical developments challenged this stability. The expectations augmented Philips curve, advanced by Friedman (1968) and Edmund Phelps (1967), introduced the role of inflation expectations. They argued that the tradeoff holds only in the short run. In the long run the economy converges to a natural rate of unemployment rendering the Philips curve vertical. This suggest that sustained attempts to reduce unemployment below its natural rate would result in accelerated inflation.

The stagflation hypothesis emerged prominently in the 1970s, when most advanced countries experienced the simultaneous occurrence of high inflation, high unemployment and sluggish growth. This phenomenon directly contradicted the traditional Philips curve prediction. A major trigger of stagflation was the 1970s oil crisis, which led to sharp increases in production costs and reduced aggregate supply. This gave rise to the cost-push inflation, where inflation is driven by supply-side shocks rather than excess demand. The stagflation phenomenon gave rise to a shift in macroeconomic thinking, emphasizing the importance of supply-side factors, the role of adaptive and rational expectations and the limitations of demand management policies.

2.2 Empirical Review

In a country specific study, Korgbeelo (2025) investigated the inflation-unemployment nexus and tested the validity of the Phillips Curve in Nigeria within the framework of Johansen cointegration and Error Correction Mechanism (ECM). The research found that inflation has a positive but statistically insignificant impact on unemployment thus suggesting that the Phillips Curve does not exist in Nigeria. On a cross country study, Effiong et al. (2022) examined the validity of the Phillips Curve in six countries within the West African Monetary Zone (WAMZ) using panel ARDL approach. The study found that the inverse relationship between inflation and unemployment is only valid in the short run within the WAMZ. Also that the Phillips Curve was not valid within the WAMZ even in the long run. Binh and Hector (2021) used monthly data from 1991Q1 to 2019Q4 to study the asymmetrical link between inflation and unemployment. There is a positive nonlinear correlation between CPI and unemployment rates, according to the results.

In another study Cristini and Ferri (2021) investigated the nonlinear relationship between inflation and unemployment for the period first quarters of 1961 and 2019 in the United States. Researchers observed a statistically significant and nonlinear relationship between inflation and joblessness. N'Guessan (2018) examined the relationship between Côte d'Ivoire's employment rate and price level using the nonlinear Engel-Granger cointegration technique, from 1960 to 2014. Nevertheless, inflation and unemployment have a positive nonlinear relationship. Malik & Mansur (2018) reanalyzed the correlation between inflation and unemployment in Nigeria, from 1991 to 2017. It employed the Nonlinear ARDL methods. The study established a negative nonlinear association between inflation and unemployment

in Nigeria. Nkoba & Masih (2018) examined the relationship among Tanzania's inflation and unemployment rates to determine their long-run link for the period 1991 and 2017. The study used Nonlinear Autoregressive Distributive Lag (NARDL) bound test. The study found that Inflation and unemployment have a negative relationship in the short run and not symmetrical. Ait et al. (2021) looked at the OECD to see whether inflation affects unemployment in a nonlinear way. Quarterly data from 1948Q1 through 2019Q4 was utilized in the study. Anticipated inflation and unemployment have a positive nonlinear connection, according to the result. Bildirici & Özaksoy (2016) examined the Post-Keynesian Phillips Curve in Canada from 1957 to 2015 using the nonlinear ARDL technique and the nonlinear Granger causality method. The study reveal that inflation and unemployment had an asymmetric negative relationship in the long run.

Most of the studies reviewed only discussed about the linear and non-linear relationships between inflation and unemployment in the economy. Non especially in Nigeria is about testing the validity of the Philips curve and stagflation in one single study. In economies such as Nigeria, the application of whether the Philips curve is often weakened by structural rigidities, supply side constraints and external shocks. Situations resembling stagflation are also not uncommon, suggesting that inflation and unemployment dynamics are heavily influenced by non-demand factors. Therefore, there is need to test the validity of these theoretical postulations in the Nigerian context.

3. Methodology

3.1 Theoretical Model

This study is anchored on the Augmented Phillips Curve developed independently by Milton Friedman (1968) and Edmund Phelps (1967). The model extends the traditional Phillips curve by incorporating inflation expectations, thereby rejecting the existence of a long-run trade-off between inflation and unemployment. the augmented Philips Curve is presented mathematically as:

$$\pi_t = \pi_t^e - \beta(u - u^*) + v_t \quad - \quad - \quad - \quad - \quad - \quad - \quad 1$$

Where: π_t is actual inflation rate, π_t^e is expected inflation rate, u is actual unemployment rate, $u^*$is natural rate of unemployment, v_t represent the supply shock (for example oil price shock and exchange rate shocks), and β is the sensitivity of inflation to unemployment.

The theory posits that any attempt by policymakers to reduce unemployment below its natural rate will only lead to accelerating inflation in the long run, as economic agents adjust their expectations. Consequently, unemployment eventually returns to its natural rate, consistent with the natural rate hypothesis. Although the model was developed prior to the 1970s, the period of stagflation characterized by high inflation and high unemployment provided empirical validation for the theory. This phenomenon was largely driven by adverse supply shocks, particularly the oil price increases associated with the OPEC, which triggered cost-push inflation. In Nigeria, persistent supply-side constraints such as exchange rate volatility, infrastructure deficits, and energy costs make the augmented Phillips curve particularly relevant in explaining the coexistence of inflation and unemployment.

3.2 Model Specification

This study used the Phillips curve theory (which postulates an inverse relationship between inflation and unemployment) and adopted the model of Onwuemeka et al. (2024). The model is adopted and modified to determine the impact of inflation on unemployment in Nigeria as follows.

$$ump = f(infl, intr, exch) \quad - \quad - \quad - \quad 2$$

Where *ump* is the unemployment rate, *infl* is inflation rate, and *exch* is the exchange rate. Other crucial variables, such as economic growth rate proxied by gross domestic product growth rate *(gdpgr)* and foreign direct investment *(fdi*) are incorporated into the model as control variables to fully capture the impact of inflation on unemployment in Nigeria. The model then becomes.

$$ump = f(infl, intr, exch, gdpgr, fdi) \quad - \quad - \quad - \quad - \quad - \quad 3$$

The stochastic form of the model is stated as.

$$ump = \alpha + \beta_1 infl + \beta_2 intr + \beta_3 exch + \beta_4 gdpgr + \beta_5 fdi + \varepsilon_t \quad - \quad - \quad 4$$

The log-linear form of the model is given as;

$$ump = \alpha + \beta_1 infl + \beta_2 intr + \beta_3 exch + \beta_4 gdpgr + \beta_5 logfdi + \varepsilon_t \quad - \quad - \quad 5$$

Unemployment rate, inflection rate, interest rate, exchange rate and GDP growth rate are not logged because they are already in rates. Incorporating equation (4) into the ARDL model gives as.

$$\Delta ump_t = \alpha_0 + \beta_1 ump_{t-1} + \beta_2 infl_{t-1} + \beta_3 intr_{t-1} + \beta_4 exch_{t-1} + \beta_5 gdpgr + \beta_6 fdi_{t-1} + \sum_{i=1}^{p} \Omega_{1i} \Delta ump_{t-1} + \sum_{i=1}^{p} \Omega_{2i} \Delta infl_{t-1} + \sum_{i=1}^{p} \Omega_{3i} \Delta intr_{t-1} + \sum_{i=1}^{p} \Omega_{4i} \Delta exch_{t-1} + \sum_{i=1}^{p} \Omega_{5i} \Delta gdpgr_{t-1} + \sum_{i=1}^{p} \Omega_{6i} \Delta fdi_{t-1} + \theta ECM_{t-1} + \epsilon_{1t} \quad - \quad 6$$

Where $\beta_1 - \beta_6$ are the long-run parameters, $\Omega_1 - \Omega_6$ are the short-run parameters, α_0 and ε_t are the intercept term and the white noise stochastic term respectively. θ is the parameter for the error correction mechanism (ECM); Δ is the difference operator. A shock to any of the regressors will result in an immediate long-run effect in ump, which violate the theory and it will require that, the short-run adjusts to its long-run (augmented Phillips Curve), through error correction mechanism (ECM_{t-1}), and ECM_{t-1} is one lag error correction term that account for the speed of adjustment to the long-run.

4. Results and Discussion

4.1 Descriptive Statistics

Table 1 present the statistical characteristics of the study variables namely unemployment, inflation, interest rate, exchange rate, gross domestic product growth rate and foreign direct investment. The outcome of the descriptive statistics provides the average, maximum, and minimum values as well as the associated standard deviation statistics of the variables. To check if the variables follow a normal distribution, we use the Jarque-Bera statistics, to look at their distributional features, we utilize the skewness and kurtosis statistics.

Table 1: Descriptive Statistics

	UMP	INFL	INTR	EXCH	GDPGR	FDI
Mean	15.63171	12.48981	16.43278	176.4247	5.050000	3.44E+08
Median	14.70000	13.52500	16.52000	152.0798	5.600000	9801395.
Maximum	27.40000	16.95000	24.85000	306.9400	15.30000	2.01E+09
Minimum	3.830000	5.400000	11.50000	92.69335	-1.800000	84627.28
Std. Dev.	7.020941	3.226740	3.244855	68.99272	3.567927	6.78E+08
Skewness	-0.000831	-0.550220	0.526903	0.855048	0.426393	1.647499
Kurtosis	1.978227	2.395646	3.022175	2.256612	4.275907	3.967716
Jarque-Bera	4.176088	6.304843	4.443988	13.90822	9.420736	47.17397
Probability	0.123929	0.042748	0.108393	0.000955	0.009001	0.000000
Observations	104	104	104	104	104	104

Sources: *Authors computation using E-views 10*

Also, the table shows that Unemployment Rate (UMP) had a mean value of 15.63%, maximum value of 27.40% recorded in the 1st to the 4th quarter of 2012, and a minimum value of 3.83% recorded in the 1st to the 4th quarter of 2024. The Jarque-Bera statistic value of 4.17 is not statistically significant at 5% level of significance. This suggests that the series is normally distributed. Similarly, Inflation (INFL) had a mean growth rate value of 12.49% and maximum values of 16.95% from the first 1st to the 4th quarter of 2024 and a minimum growth rate value of 5.4% which was from the 1st to the 4th quarter of 2007. The Jarque-Bera statistic value of 6.30 is also statistically significant at 5% level of significance, implying that the series is not normally distributed. In the same vein, Interest Rate (INTR), had a mean value of 16.42%, maximum value of 24.85% which was recorded from the 1st to the 4th quarter of 2003and a minimum value of 11.50% recorded from the 1st quarter of 2021 to the 4th quarter of 2023. The Jarque-Bera statistic value of 4.44 is not statistically significant at 5% level of significance. This suggests that the series is normally distributed.

Furthermore, the table shows that Exchange Rate (EXCH) had a mean value of 176.42, maximum value of 306.94 recorded from the 1st to the 4th quarter of 2019, and a minimum value of 92.69 recorded from the 1st to the 4th quarter of 2000. The Jarque-Bera statistic value of 13.90is statistically significant at 5% level of significance. This suggests that the series is not normally distributed. It was also observed that GDP growth rate (GDPGR) had a mean value of 5.05% with a maximum value of 15.30% recorded from the 1st to the 4th quarter of 2022, and a negative minimum value of-1.80% recorded from the 1st to the 4th quarter of 2020.The situation can be attributed to the effect of Covid-19 on the Nigerian Economy. The Jarque-Bera statistic value of 9.42is statistically significant at 5% level of significance. This suggests the series is not normally distributed.

Similarly, the table shows that Foreign Direct Investment (FDI) had a mean value of ₦3.44 billion, maximum value of ₦2.01 billion recorded from the 1st to the 4th quarter of 2002 and a minimum value of ₦84627.28 million recorded from the 1st to the 4th quarter of 2019. The Jarque-Bera statistic value of 47.17 is statistically significant at 5% level of significance. This suggests that the series is also not normally distributed. Though most of the series are not normally distributed, however, the descriptive statistics was conducted using raw data. The series is therefore expected to become normally distributed after transformation using log-linear.

4.2 Unit Root Test

The unit root test was carried out using Augmented Dickey Fuller (ADF) as shown in Table 2

Table 2: The Augmented Dickey-Fuller (ADF) Unit Root Test Results

Variables	At level	Prob. Value	First Difference	Critical Values			Prob. Values	Order of Co-integration
				1%	5%	10%		
UMP	1.255363	0.6319	-4.683455	3.808546	3.020686	2.650413	0.0239	I(1)
INFL	-3.544374	0.0159		3.752946	2.998064	2.638752		I(0)
INTR	-1.815661	0.3639	-6.261325	3.769597	3.004861	2.642242	0.0000	I(1)
EXCH	-1.053866	0.7157	-4.844361	3.769597	3.004861	2.642242	0.0009	I(1)
FDI	1.317659	0.6034	-4.795013	3.769597	3.004861	2.642242	0.0010	I(1)

Source: *Author's Extract from E-views 10*

The ADF results revealed that the integration properties of the series revolve around level [I(0)] and the first difference [I(1)] equation. This reinforces the preference for the ARDL technique as the most appropriate for accommodating the series mixed order of integration. Generally, when data are in a different unit of measurement, it becomes necessary to transform them to arrive at the closest unit of measurement to avoid spurious results. According to Table 4.2, all of the variables reach stationarity at their first difference, except for inflation (INFL), which shows stationarity at levels. The use of the ARDL method is validated by this outcome. In light of this, the study used the ARDL method to forecast the short- and long-term effects of inflation on unemployment in Nigeria

4.3 ARDL Bounds Test for Cointegartion

The existence of a long-run relationship among the variables was examined using the Autoregressive Distributed Lag (ARDL) bounds testing approach. The results of the bounds test are presented in Table 3.

Table 3: Autogressive Distributed Lag (ARDL) Bound Test Result.

Test Statistic	Value	Signif.	I(0)	I(1)
			Asymptotic: n=1000	
F-statistic	4.238765	10%	2.26	3.35
K	5	5%	2.62	3.79
		2.5%	2.96	4.18
		1%	3.41	4.68

Source: *Author's Computation using E-views 10*

The results of the ARDL bound test indicate that at the 5% level of significance, the F-statistic of 4.238765 is larger than the upper limit value of 3.79, indicating a long-run association between inflation and unemployment in Nigeria. Following the establishment of a long-run relationship among the variables, the short-run and long-run results are presented as follows.

4.4. Short Run Error Correction Model (ECM)

Following the confirmation of a long-run relationship among the variables, the short-run dynamics were estimated using the Error Correction Model (ECM). The results of the short-run ECM are presented in Table 4.

Table 4: Short-Run Estimates of inflation and Unemployment in Nigeria (ARDL)

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-14.64185	2.478598	-5.907311	0.0010
D(INFL)	0.116924	0.019444	6.013372	0.0001
D(INTR)	-1.093271	0.436430	-2.505031	0.0462
D(INTR(-1))	-2.637913	0.422944	-6.237033	0.0008
D(EXCH)	0.145217	0.027327	5.313996	0.0018
D(EXCH(-1))	0.129041	0.028425	4.539684	0.0039
D(GDPGR)	-0.070827	0.207535	-0.341280	0.7445
D(GDPGR(-1))	-1.528688	0.372429	-4.104642	0.0063
D(FDI)	5.887069	0.885019	6.651909	0.0006
D(FDI(-1))	3.243125	0.889736	3.645044	0.0108
ECM(-1)*	-0.218332	0.036579	-5.968787	0.0010
R-squared	0.864607	F-statistic	7.024503	
Adjusted R-squared	0.741523	Prob(F-statistic)	0.001692	
Log likelihood	-43.11359			

Source: *Author's Computation using E-views 10*

Table 4 shows that inflation has a positive and statistically significant effect on unemployment in the short run. This indicates that a 1% increase in inflation rate will lead to a 0.12% increase in unemployment in the country. This implies that inflation and unemployment moves in the same direction in the short run in Nigeria. This finding contradicts that of Effiong et al. (2022) who found that the trade-off between inflation and unemployment is only valid in the short-run. The findings provide strong evidence to Stagflation tendencies in the Nigerian economy. The outcome is consistent with the predictions of the Augmented Phillips Curve under conditions of adverse supply shocks such as cost-push factors. In Nigeria, this finding may be attributed to the recent policy on subsidy removal which has caused astronomical increase in energy cost and other prices in the economy. Interest rate has a negative and statistically significant effect on unemployment in both the current and lagged periods. A 1% increase in interest rate reduces unemployment by 1.09% and 2.64% in current and lagged periods respectively. This suggests that monetary policy may be stabilizing employment in Nigeria. Exchange rate exert a positive and statistical effect on unemployment in both periods. It shows that a 1% depreciation increases unemployment by 0.15% and 0.13% in current and lagged time horizons respectively. This reflects the import dependence nature of Nigeria where depreciation leads to higher import cost which reduces output and consequently causes job losses. GDP growth rate has a negative but statistically significant effect on unemployment in the lagged period. This implies that a 1% increase in GDP growth rate reduces unemployment by 1.53% in the time horizon. Finally, FDI has a positive and statistically significant effect on unemployment in Nigeria in both the

current and lagged periods. It means that a 1% increase in FDI will increase unemployment by 5.89% and 3.24% in the current and lagged periods respectively. This suggest strong evidence of non-labour employment generating FDI inflows in the economy.

The adjusted R-Squared of 0.741523, indicate that the explanatory variables accounted for 74% of the variance in unemployment. A high joint effect of the explanatory variables in the model was indicated by an F-statistic of 7.024503 with a probability value of 0.001692. Furthermore, the long-run estimates of the impact of inflation on unemployment in Nigeria as presented as follows.

4.5 Long-Run ARDL Estimates

The long-run coefficients were estimated using the Autoregressive Distributed Lag (ARDL) model. The estimated long-run results are presented in Table 5.

Table 5: The ARDL Long Run Estimates of the Impact of Inflation on Unemployment

Variable	Coefficient	Std. Error	t-Statistic	Prob.
INFL	2.900908	0.572527	5.066849	0.0032
INTR	-0.290214	5.273565	-0.055032	0.9579
EXCH	-0.375325	0.064552	-5.814241	0.0002
GDPGR	-5.916968	1.583720	-3.736120	0.0231
FDI	4.432264	0.843220	5.2563554	0.0014
C	24.881698	1.402892	17.736004	0.0000

Source: *Author's computation using E-views 10*

The ARDL long-run results indicate that inflation has a positive and statistically significant relationship with unemployment in the long-run in Nigeria. This implies that a 1% increase in inflation will lead to approximately 2.9% increase in unemployment in the long-run. The findings do not corroborate that of Korgbeelo (2025) who found a positive but statistically insignificant impact of inflation on unemployment. This suggests the presence of stagflation in the economy. Interest rate has a negative but statistically insignificant effect on unemployment. Exchange rate has a negative but statistically significant relationship with unemployment in Nigeria. This implies that a 1% increase in exchange rate will lead to a 0.3% decrease in unemployment. this may be because currency depreciation makes exports cheaper and more competitive. Cheaper exports are expected to encourage domestic production and import substitution which could lead to increase labour demand and consequently lower unemployment. GDP growth rate has a negative and statistically significant effect on unemployment in Nigeria in the long run. This means that a 1% increase in GDP growth rate will lead to approximately 5.92% decrease in unemployment holding other factors constant. This suggests that as the economy grows, firms expand production and demand more labour which could reduce unemployment in the economy. FDI has a positive and statistically significant effect on unemployment. it shows that a 1% increase in FDI will lead to approximately 4.43% increase in unemployment in Nigeria. This seem to be a realistic situation in Nigeria where FDI inflows into the oil sector limits job creation. The sector employs machines and not labour, as a result they outcompete local industries leading to closure of domestic firms

4.6 Diagnostic Test

The model was tested for Mis-Specification, autocorrelation using the Breusch-Godfrey LM test, and heteroscedasticity using the Breusch-Pagan-Godfrey test. The results of these tests are shown in the table 6;

Table 6: Diagnostic Tests(ARDL)

Tests	Statistics	Probability values
Autocorrelation (Breusch-Godfrey LM test)	2.766185	0.1761
Heteroskedasticity (Breusch-Pagan-Godfrey)	0.413607	0.9225
Normality (Jarque-Bera) Test	1.036235	0.5956
Ramsey RESET test (F-statistic)	0.006145	0.9406

Source: *Author's computation using E-views 10*

According to Table 5.14, all of the diagnostic tests' null hypotheses were accepted, which means that the model does not have any issues with mis-specification, autocorrelation, heteroskedasticity, or regularly distributed variables. It was determined that the model is stable by doing the Ramsey RESET test. As a result, the model is a good fit for developing and executing policies.

Figures 7 and 8 display the outcomes of the CUSUM and CUSUM of Squares tests, which were also performed.

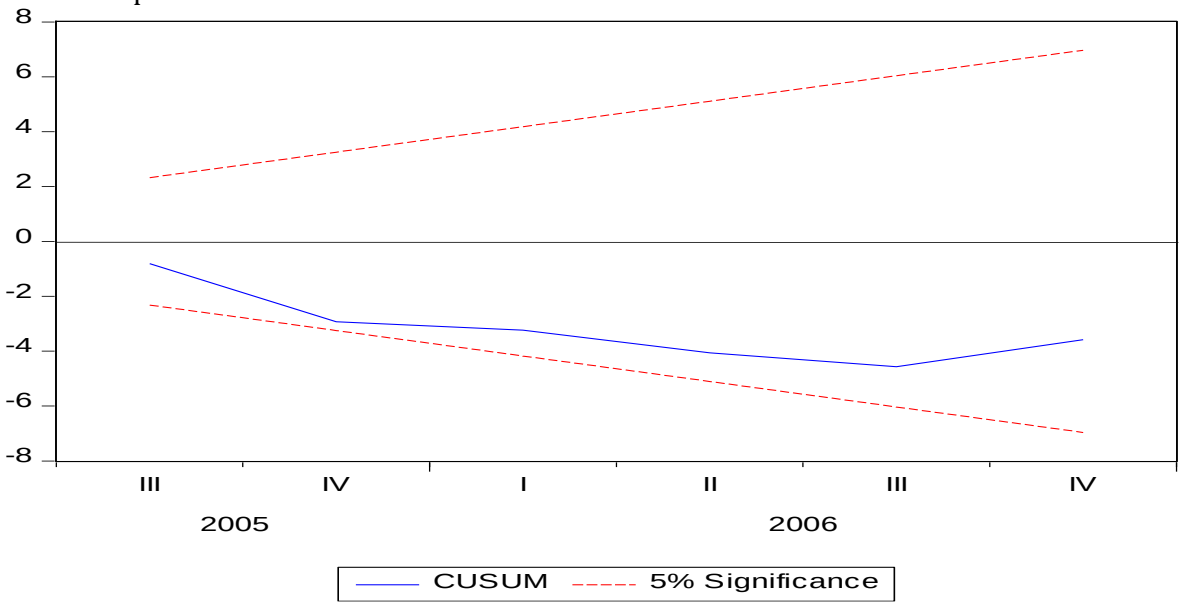

Figure 1: CUSUM graph for ARDL model

The long-term stability of the estimations was demonstrated by the CUSUM plot, which shows that the CUSUM line is contained inside the 5% significance level. This points to the variables' behaviour remaining constant throughout time. This would indicate that the model's parameters were structurally stable during the time frame considered. This proves that the error correction model's coefficients are all constant.

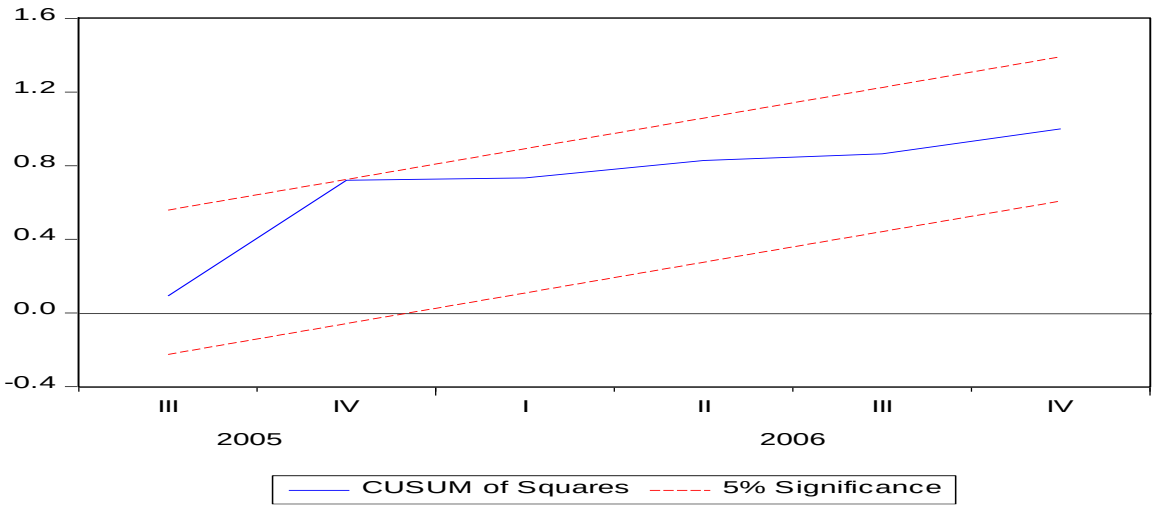

Figure 2: CUSUM of Square graph for ARDL model

The CUSUM of Squares plot for the inflation and unemployment model falls inside the 5% critical constraint, as seen in the picture above. All of the error correction model's coefficients are stable, which means that the model's parameter was structurally stable over the time period studied.

5. Conclusion and Policy Recommendations

This study investigates the inflation–unemployment nexus in Nigeria within a comprehensive macroeconomic framework that incorporates interest rate, exchange rate, GDP growth, and foreign direct investment, employing the Autoregressive Distributed Lag (ARDL) approach. The empirical results indicate that inflation has a positive and statistically significant effect on unemployment in the short run, suggesting the presence of a stagflationary tendency rather than the conventional trade-off between inflation and unemployment. In the long run, inflation maintains a positive and statistically significant relationship with unemployment, implying the presence of stagflation in the economy over time. Therefore, the findings do not support the validity of the Phillips Curve hypothesis in the Nigerian context. The results further show that exchange rate depreciation increases unemployment in the short run but reduces it in the long run**,** suggesting that while currency depreciation initially raises production costs in an import-dependent economy, it may eventually enhance competitiveness and stimulate domestic production. GDP growth exhibits a significant negative effect on unemployment**,** particularly with a lag, confirming that economic expansion contributes to employment generation in line with theoretical expectations. On the other hand, foreign direct investment is found to have a positive and significant effect on unemployment in both the short and long run, implying that FDI inflows into Nigeria are largely capital-intensive and weakly linked to the domestic labour market. This suggests that not all growth-enhancing factors translate into job creation. The study concludes that unemployment dynamics in Nigeria are driven more by structural and sectoral factors than by inflationary conditions, underscoring the limited applicability of conventional macroeconomic trade-off theories in the country. On the basis of the findings, the study recommends the following.

i. Monetary authorities should adopt a balanced monetary policy framework that is beyond strict inflationary targeting. This can be done by adopting a more flexible approach that considers employment outcomes in Nigeria.
ii. The government should address structural constraints to employment by prioritizing reforms in key sectors like agriculture, manufacturing and infrastructure. Also, there should be improvement in security conditions, power supply which will lower production cost and consequently enhance employment creation.
iii. The government should be deliberate in promoting labour-intensive investment policies. This can be done by designing policies or incentives that will encourage investment in manufacturing, agro-processing, and Small and Medium Enterprises (SMEs) rather than predominantly capital-intensive sectors.
iv. Exchange rate management should be a top priority because of its adverse effect on unemployment in the economy. The government should make efforts to reduce excessive exchange rate volatility and complementary policies should support domestic industries to take advantage of the long-run competitiveness gains that are associated with a weaker currency.

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