MACROECONOMIC DETERMINANTS OF UNEMPLOYMENT IN NIGERIA

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Abstract

Unemployment is a problem of great concern to policy makers of both developing and developed countries as it can yield devastating effect on economic welfare, misery and social instability. Further, unemployment results in some psychological problems of hopelessness, frustration, hostility & gradual drift of some visible unemployed youth into all manner of criminal behaviour. This study thus analyzed the macroeconomic determinants of unemployment in Nigeria using a time series data and an error correction mechanism. The parsimonious result indicates that GDP growth rate, inflation rate, degree of openness, and private domestic investment are statistically significant in influencing unemployment in the short run, particularly during the period under consideration. The Johansen co-integration test supports the existence of a long run relationship among the variables and the negatively signed and significant ECM shows high speed of adjustment from short run fluctuations to long run equilibrium. It is thus

recommended that policies focusing on increasing GDP growth should be implemented. Private sector investment should be encouraged by the government all levels. Government should decrease trade restriction and this will result in an increase in openness of trade.

Keywords: Unemployment, Economic Growth, Investment, Inflation rate, Exchange rate

INTRODUCTION

Unemployment is defined as the condition of having no job or being out of work or proportion of people which are able to work and actively searching jobs but they are unable to find it. Unemployment is a problem of great concern to policy makers of both developing and developed countries. In view of Kyei and Gyeke (2011) unemployment is a real matter of concern as it can yield devastating effect on economic welfare, crime, the erosion of human capital, misery and social instability. Similarly, unemployment results in some psychological problems of hopelessness, frustration, hostility & gradual drift of some visible unemployed youth into all manner of criminal behaviour, Bakare (2011). According to Maqbool, Sattar and Bhalli (2013), the focus of every government must be to create employment opportunities through various productive activities by using all available factors of production. Additionally, persistent unemployment not only affects the status of a nation in comparison to other nations, but it also leads to cruel home country problems. Long-term unemployment always results in creating financial hardships, poverty, homelessness, crime, frustration and many other problems like breakdown and family tension, social isolation, loss of confidence and self-esteem. All these lead to the erosion of a healthy society.

In the 1960's and 1970's the Nigerian economy provided jobs for the teeming population. The economy also absorbed considerable imported labour in the scientific sectors. The wage rate compared favourably with international standards. There was also relative industrial peace in most industries and some groups. Specifically, following the oil boom of the 1970's, there was rapid migration, especially the youths to the urban areas in search of wage employment. But following the downturn in the economy in the 1980's, the problem of unemployment started to manifest. The introduction of IMF-World Bank Structural Adjustment Programme (SAP) led to rapid depreciation of the naira exchange rate and the inability of most industries to import the raw materials required in supporting their output levels. A major consequence of the rapid depreciation of the naira was the sharp rise in the general price level. This development subsequently led to a significant decline in real wages. The low wage in turn resulted in a weakening purchasing power of wage earners and declining aggregate demand. Consequently, industries started to accumulate unintended inventories. As normal economic agents, the

manufacturing firms started to reduce their workforce. In the public sector, embargo was placed on employment. More importantly with the simultaneous rapid expansion in the educational sector, new entrants into the labour market increased beyond the absorptive capacity of the economy, Central Bank of Nigeria (2003). These developments have eventually worsened the unemployment situation in the country, Gbosi (2005)

For Bakare (2011) Some of the very common causes of unemployment in Nigeria is due to structural factors such as the nature of the educational system and its interface with the labour market (i.e., the mismatch problem), technological change, permanent shifts in the demand for goods and services and the skill content of the labour force. Cyclical factors such as the fluctuations in aggregate local and foreign demand for goods and services and institutional factors such as the presence of strong labour unions and labour legislation also determine the underlying changes in the unemployment rate. He found by using the time series data that Demand for labour, Supply of labour, Population growth, Inflation rate, Capacity utilization, Gross capital formation, and Nominal wage rate are important determinants of urban unemployment in Nigeria. So this study aims at finding the relationships between unemployment rate and variables like GDP Growth Rate, Inflation Rate (CPI based), Openness of Trade, and Private Domestic Investment in Nigeria, but also to find what gaps there may be in the literature so that this study and further studies can be focused on filling these gaps.

The rest of the paper is organized as follows: in section 2, a brief review of the literature is provided while the method of the study is presented in section 3. This methodology provides the basis for the estimation of a simple model of unemployment for Nigeria. Section 4 presents the results of the estimated model over the period 1981-2014. Finally, conclusion and policy recommendations are presented in section 5.

THEORETICAL ISSUES AND LITERATURE REVIEW

Theoretical Issues

The literature is replete with theories, which attempt to explain some basic issues of employment in many nations. For example, in the 1920's and early 1930's economists such as Pigou (1929) and Keynes (1936) formulated a number of models to explain the problem of unemployment. A review of the literature shows that employment has typically been explained mainly in terms of stimulating growth and development. This is usually achieved through the continuous transfer of labour from rural to urban industrial centres. Some of these theories have been found inadequate in explaining the peculiar nature of employment in developing countries. However, a new body of literature has emerged which is based on the two- sector labour transfer models. Five economic models for determining employment are easily identified

in the literature. For example, Todaro (1985) identified the first two as the classical and Keynesian models. The third and fourth models have emerged from the more recent neo-classical theory. The fifth group of models focuses on the "two-sector transfer" or rural-urban migration models.

According to the classical theory, an economy will always be at full employment rate. This is because the demand for labour will always equal the supply of labour at the prevailing money wage rate. Therefore, if for any reason, there is an increase in the supply of labour, the money wage would fall. As a result of this, more workers could be employed. Similarly, if there is a shortage of workers, the money wage would rise thereby eliminating the shortage. Thus, in the classical sense, there will be no voluntary unemployment.

Later Todaro (1985) was able to demonstrate a much more complex interplay of economic variables that try to explain the phenomenon of unemployment. Specifically, he showed that a combination of the shortages of capital, raw materials, intermediate products, skilled and managerial human resources with poorly functioning and insufficiently organized commodity and loan markets, poor transport and communications, shortage of foreign exchange and import dominated communication patterns existed among the rich nations. All these and many other structural and institutional factors were the real cause of unemployment in developing countries. As a result, the simple notion that expanded government and private demand would be effective in tackling the challenge of unemployment in most third world countries remained a mirage, Todaro contended.   The new classical models are based on an explanation of unemployment by resources to price incentives.

The failure, of the classical, Keynesian and neo-classical models to explain the unemployment problem in developing countries has led to the development of the two-sector labour transfer models. For example, Lewis (1964), Jorgenson (1987), Todaro (1989) and Haris and Todaro (1970) have all postulated that labour would tend to move from the rural to the urban sector of an economy. The main thrust of the models is that there exists an unlimited supply of labour in the subsistence wage level in the rural sector but that the urban sector draws on the unlimited supply of labour at a wage rate above the subsistence wage level. The Todaro model in particular, emphasizes the migration function. This model hypothesizes that the resultant urban income is the present value of expected earnings. That is a national by the individual migrant that allows for the probability of the migrant entering urban employment. The model is useful in trying to explain why policies which are devoted only to rising urban labour demand cannot be relied upon to reduce urban unemployment, Central Bank of Nigeria (2003).

From the analysis, the following conclusions can be drawn. None of the models is capable of explaining the unemployment problem in developing countries which are complex

and very unique. The models that focused on the determinants of both Labour supply and demand appear to be more relevant application of the Nigerian situation. This is because the model seeks to take purposeful account of the institutional and economic realities of under-development, especially the phenomenon of structural dualism.

Brief Survey of Literature

Literature review deals with citing the contribution of other authors in the area and concentrates on highlighting the results, findings and conclusion on the subject area, Apere (2004). This section critically examines the views of other scholars on the issue we are investigating. This step is pertinent in order to examine arguments raised by scholars on the topic and also to create a path by which our present study will be channelled.

In defining unemployment; authors like Adebayo (1999) Gbosi (2005), Maqbool, Sattar and Bhalli, (2013), Chowdhury and Tanjil (2014), Englama (2001), Adebayo (1999), Onah (2010) share different but related views. For instance, Adebayo (1999) defined unemployment as a state in which people who can work are without jobs and are seeking for pay or profit. This definition gives rise to the problem of measurement, especially when we are interested in knowing the average rate of unemployment in the economy over a period of time. For Gbosi (2005), there is no precise definition of unemployment in the economic literature. To the layman, unemployment means a state of joblessness. But he went to define unemployment as the percentage of the labour force that is without job but is able and willing to work. Englama (2001) points out that the unemployment rate in an economy is the number of people unemployed expressed as a percentage of the total labour force. The total labour force is defined as the number of people employed plus the number of people unemployed within the age bracket of 18-60 years. The definitions of Gbosi (2005) and Englama (2001) are different but related. Similarly, Maqbool, Sattar and Bhalli, (2013), sees unemployment as a situation in which individuals are actively searching for jobs and mentally prepare themselves to work at any level of wage which already exists in the competitive market. While Chowdhury and Tanjil (2014), defined unemployment as the condition of having no job or being out of work or proportion of people which are able to work and actively searching for jobs but they are unable to find it. In summary, unemployment is a situation where an individual is willing, able and wishes to work but cannot find job at the existing wage rate.

Unemployment is a real matter of concern as it can yield devastating effect on economic welfare, crime, the erosion of human capital, misery and social instability. To find the determinants of unemployment several studies have been conducted. Some of these studies within and outside Nigeria are given below.

Umaru and Zubairu (2012) investigated the relationship between inflation and unemployment in Nigeria from 1977 to 2009. The study used Johansen Co-integration method and Grange Causality test. The result indicated that there was negative relationship between inflation and unemployment in Nigeria. Causality test showed that there was no causation between inflation and unemployment in Nigeria during the period under study. In a like manner, Bakare (2011) examined the determinants of urban unemployment crisis in Nigeria: An econometric analysis. The major thrust of his findings is that unemployment has become a major socio-economic problem in Nigeria and that it has reached a crisis proportion. The results indicated that unemployment is a serious problem especially among the young cohorts of the labour force. There is no doubt from the results that youth unemployment in Nigeria shares common characteristics with that existing in several places as shown in the literature especially the rural-urban drift. In this respect, it is recommended that programmes of integrated rural development and re-orientation of economic activity and social investments towards the rural areas need to be embarked upon to create an appropriate rural urban economic balance.

Echebiri (2005) worked on determinants of unemployment in Umuahia, Nigeria. Umuahia has a faster population growth rate so most of labour force is not employed. The sample of 220 youths was drawn from areas with varying residential configurations and found that youth unemployment in the town shared common characteristics with that studied in many other cities in the developing world. Education and job preference have a direct relation with unemployment. It was particularly found that majority of the unemployed and first time job seekers preferred salaried employment to self employment. The youths showed that they dislike the rural residency because there is lack of employment opportunities and poor social and physical infrastructures.

Eita and Ashipala (2010) worked on determinants of unemployment in Namibia for the period of 1971-2007.They used macro economic variables for unemployment model. They adopt Engle-Granger two-step econometric procedure. The results revealed that there is a negative relationship between unemployment and inflation in Namibia. Unemployment responds positively if actual output is below potential output, and if wages increase. An increase in investment causes unemployment to decrease significantly. The results provide evidence that the Phillips curve holds for Namibia and unemployment can be reduced by increasing aggregate demand. In the same vein, Chowdhury and Tanjil (2014), investigated the determinates of unemployment in Bangladesh from 2001 to 2011 by using Simple Single Equation Linear Regression Model (SELRM). The variables selected for the study are Unemployment rate, GDP growth rate, Exchange rate and Inflation rate (CPI based). Their results show significant impact of all the variables. For them, inflation rate stimulate unemployment positively and GDP growth

rate and Exchange rate has negative impact on unemployment. Also Cheema and Atta (2014) examined the economic determinants of unemployment in Pakistan: Co-integration Analysis from 1973 to 2010 by applying ARDL bound approach technique of analysis. Their findings indicate that unemployment has statistically significant positive relationships with output gap, Productivity and Economic Uncertainty while it has statistically significant negative relationships with Gross Fixed Investment and Openness of Trade. They subsequently advocated for government adoption of depreciation policy along with reduction in trade restrictions. Not only should government himself undertake investment projects, but it should also encourage private investment.

We have reviewed different studies about determinants of unemployment. These studies have not considered important macroeconomic variables which may influence unemployment rate in Nigeria. In the literature reviewed, the following gaps were observed; most studies reviewed did not capture most macroeconomic variables in Nigeria. In addition, the time period of their studies cannot stand the current period. This study was extended to a more current period to know if the result of their studies can still be relevant in the current period. In addition to these gaps, this study was aimed at finding the relationships between unemployment rate and variables like GDP Growth Rate, Inflation Rate (CPI based), Openness of Trade, and Private Domestic Investment in Nigeria.

MATERIALS AND METHODS

The conventional approach to time-series econometrics is based on the implicit assumption of stationarity of time-series data. A recent development in time-series econometrics has cast serious doubt on the conventional time-series assumptions. There is substantial evidence in the recent literature to suggest that many macroeconomic time series may possess unit roots. That is, they are non-stationary processes. A time-series integrated of order zero I(0), is level stationary, while a time-series integrated of order one, I(1), is stationary in first difference. Most commonly, series are found to be integrated of order one, or I(1). The implication of some systematic movements of integrated variables in the estimation process may yield spurious results. In the case of a small sample study, the risk of spurious regression is extremely high. In the presence of I(1) or higher order integrated variables, the conventional t-test of the regression coefficients generated by conventional OLS procedure is highly misleading, Granger and Newbold (1977). Resolving these problems requires transforming an integrated series into a stationary series by successive differencing of the series depending on the order of integration, Box and Jenkins (1970). However, Sargan (1964), Hendry and Mizon (1978) and Davidson, Hendry, Sbra and Yeo (1978) have argued that the differencing process loses

valuable long run information in data, especially in the specification of dynamic models. If some, or all, of the variables of a model are of the same order of integration, following the Engle-Granger theorem, the series are co-integrated and the appropriate procedure to estimate the model will be an error correction specification. Hendry (1986) supported this view, arguing that error correction formulation minimizes the possibilities of spurious relationships being estimated as it retains level information in a non-integrated form Hendry (1986). Davidson, Hendry, Sbra and Yeo (1978) proposed a general autoregressive distributed lag model with a lagged dependent variable, which is known as the 'error-correction' term. Davidson, Hendry, Sbra and Yeo (1978) also advocated the process of adding lagged dependent and independent variables up to the point where residual whiteness is ensured in a dynamic specification. Therefore, error correction models avoid the spurious regression relationships. To guard against the possibility of estimating spurious relationships in the presence of some non stationary variables, estimation is performed using a general-to-specific Hendry-type error correction modelling (ECM) procedure. This procedure begins with an over-parameterised autoregressive distributed lag (ADL) specification of an appropriate lag. The consideration of the available degrees of freedom and type of data determine the decision on lag length. With annual data, one or two lags would be long enough, while with quarterly data a maximum lag of four can be taken. Under this ECM procedure, the long run relationship is embedded within the dynamic specification.

Based on this theoretical background and on data availability, this study estimates the following relationship:

$$UNR = \beta_0 + \beta_1 GDPGR + \beta_2 INFR + \beta_3 DOP + \beta_4 PDI - - - - - - - - - 1$$

From the above framework, the function for unemployment determinants can be specified in log linear form as follows:

$$UNR = \beta_0 + \beta_1 GDPGR + \beta_2 INFR + \beta_3 DOP + \beta_4 InPDI - - - - - - - - - 2$$

Where:

UNR: Unemployment rate;

GDPGR: GDP growth rate;

INFR: Inflation rate;

DOP: Degree of economic openness;

PDI: Private domestic investment; and

In: Natural logarithm

β_0 = The intercept or autonomous parameter estimate

$\beta_1 to \beta_4$ = Parameter estimate representing the coefficient of GDPGR, INFR, DOP, and PDI respectively

μ = Error term (or stochastic term).

The a'priori' expectations are determined by the principles of economic theory and refer to the expected relationship between the explained variable and the explanatory variable(s). It is expected that $\beta_1 to \beta_4 < 0$

The data were collected from the Central bank of Nigeria Statistical Bulletin, 2013 and various Issues of the World Bank Indicators for Nigeria from 1981-2014.

ANALYSIS

Unit Root Test

The analysis commenced with the unit root test which is used to test whether the variables are stationary or not and their other of integration. There are different methods for unit root for example: DF, ADF & PP test etc. This study used Augmented Dickey Fuller test. The summary of the Augmented Dickey Fuller (ADF) unit root test is presented in table1:

Table 1: Summary of ADF unit root test results (Intercept and Trend)

Variables	ADF		
UNR	-5.53	-4.34*	I(1)
GDPGR	-5.31	-4.26*	I(0)
INFR	-4.03	-3.56**	I(0)
DOP	-7.42	-4.27*	I(1)
PDI	-6.07	-4.26*	I(0)

NB: * Indicates stationary at the 1% level, and ** Indicates stationary at 5% level.

The result of the ADF unit root test suggests that all the variables except GDPGR, INFR, and PDI were non-stationary. They however became stationary after the first difference was taken. However, following Harris (1995) and Gujarrati (2009), both I(1) and I(0) variables could be carried forward to test for co-integration which forms the basis of the next section.

The Johansen co-integration test was used to test for the existence or not of a long run relationship among the variables. The Johansen methodology was preferable for the study

because it has the advantage amongst others of allowing for more than one co-integrating vector. The result of the Johansen co-integration test is shown in table 2 below:

Table 2: Johansen Co-integration Test Result

Trace Test k = 2				Maximum Eigenvalues Test k = 2			
H_0	H_A	(λ trace)	Critical Values (5%)	H_0	H_A	(λ Max)	Critical Values (5%)
$r \leq 0$	$r > 0$	90.98284*	69.81889	$r \leq 0$	$r > 0$	51.17979*	33.87687
$r \leq 1$	$r > 1$	39.80305	47.85613	$r \leq 1$	$r > 1$	20.04896	27.58434
$r \leq 2$	$r > 2$	19.75409	29.79707	$r \leq 2$	$r > 2$	8.329781	21.13162
$r \leq 3$	$r > 3$	11.42431	15.49471	$r \leq 3$	$r > 3$	7.405885	14.26460
$r \leq 4$	$r > 4$	4.018425	3.841466	$r \leq 4$	$r > 4$	4.018425	3.841466

Note: r represents number of co-integrating vectors and k represents the number of lags in the unrestricted VAR model. * denotes rejection of null hypothesis at the 5% (1%) level

The results reveal one co-integrating vector exists among the variables of interest. Since the variables are co-integrated, there is, therefore, a long run relationship among the variables. It also means that the study can proceed to estimate the Error Correction Model.

Error Correction Model

The error correction modelling involves three steps. The first is to estimate a long-run model; the second is to include the error term from the long-run model in a dynamic over-parameterised model and the third is to work on this model until one obtains the parsimonious model which is then interpreted.

Table 3: Summary of Long-run Model

Variables	Coefficients	t-values	p-values
Constant (β_0)	4.68	6.19	0.00
GDPGR	-0.02	-0.55	0.58
INFR	-0.01	-0.59	0.56
DOP	3.83	3.05	0.00
lnPDI	1.88	2.52	0.02

R^2 = 0.39, Adj. R^2 = 0.28, F. Statistic = 3.79, and DW = 1.07

Table 4: Summary of Over-parameterize ECM Result

Variables	Coefficient	Standard error	t-statistic	Prob
C	0.15	0.14	1.08	0.3040
D(GDPGR)	-0.05	0.06	-0.94	0.3714
D(GDPGR(-1))	0.02	0.04	0.67	0.5205
D(GDPGR(-2))	-0.04	0.04	-1.01	0.3368
D(INFR)	0.00	0.02	0.09	0.9305
D(INFR(-1))	-0.01	0.01	-2.05	0.0675
D(INFR(-2))	0.01	0.01	0.86	0.4115
D(DOP)	1.36	0.91	1.49	0.1669
D(DOP(-1))	-2.92	1.54	-1.90	0.0865
D(DOP(-2))	-0.57	0.96	-0.59	0.5652
DIn(PDI)	2.77	7.09	0.39	0.7044
DIn(PDI(-1))	-9.42	7.99	-1.17	0.2656
DIn(PDI(-2))	6.83	6.19	0.11	0.9143
ECM(-1)	-0.39	0.19	-2.05	0.0673

R^2 = 0.78, Adj. R^2 = 0.46,

AIC = 1.75, SC = 2.52, F. Statistic = 2.41, and DW = 1.58

Over-parameterize and parsimonious ECM provides a solution to the problem of spurious or non-sense regression associated with estimating models involving time series variables and also to reflect the dynamic adjustment to the long run, Patterson (1990). Thus, we adopted the general to specific framework. The uniqueness of ECM is that it provides the framework for establishing the link between the long and short run approaches to economic modelling Enang (2010). With the ECM, no first difference information is lost because the ECM incorporates both the short run dynamics and long run information in the error correction term.

The above table also includes the one period lagged value of the ECM whose coefficient is negative and statistically significant to support the existence of co-integration. The result of the over-parameterize ECM in Table 4 include two lags of each variable. The parsimonious ECM model was obtained by deleting the insignificant variables from the Over-parameterize ECM model. The result of the parsimonious or preferred ECM model is shown below in Table 4.

Table 5: Summary of Parsimonious (Preferred) ECM Result

Variables	Coefficient	Standard error	t-statistic	Prob
C	0.13	0.09	1.46	0.1585
D(GDPGR)	-0.05	0.02	-3.01	0.0065
D(INFR(-1))	-0.01	0.01	-2.32	0.0298
D(DOP)	1.42	0.49	2.89	0.0084
DIn(PDI)	9.15	2.96	3.09	0.0053
ECM(-1)	-0.24	0.09	-2.65	0.0147

R^2 = 0.59, Adj. R^2 = 0.50, AIC = 1.49, SC = 1.78, F. Statistic = 6.50, and DW = 1.86

The parsimonious ECM result was gotten by deleting the insignificant variables from the over-parameterize ECM. The Akaike Information criterion, Schwarz criterion and log-likelihood were used to select the appropriate lag-length. That is in order to know when to stop removing insignificant variables, one can use information criterion like Akaike information criterion, Schwarz criterion.

The parsimonious result indicates that GDP growth rate, inflation rate, degree of openness, and private domestic investment are statistically significant in influencing unemployment in the short run, particularly during the period under consideration. Some are significant at their levels or current value, while others were significant at the lag. The results of short run coefficient show that change in GDP growth rate and inflation rate (INFR), are negatively related to changes in unemployment rate (UNR), and also statistically significant. This implies that a unit increase in GDPGR and INFR will lead to -0.05 and -0.01 reductions in unemployment rate. Degree of openness (DOP) and private domestic investment (PDI) has a positive and statistically significant relationship with unemployment in Nigeria particularly during the period under consideration. This is an indication that an increase in inflation rate and GDP growth rate will reduce unemployment rate in Nigeria.

The coefficient of ECM is (-0.24) which shows high speed of adjustment from short run fluctuations to long run equilibrium (24% discrepancy is corrected each year) approximately 24 percent of disequilibrium from the previous year's shock convergence back to the long run equilibrium in the current year. This supports the existence of a satisfactory speed of adjustment. Since the distribution of the error term is stationary, the combinations of dependent and independent variables are co-integrated, Engel and Granger (1987).

Additionally, it can be observed that the Durbin-Watson statistic (from table 5) is greater than the R- squared value. This is a sign that the model is a non-spurious regression. Also the closeness of the R-squared value to the R-Adjusted is an indication of stability. Two other tests

that can validate this claim of non-spurious regression are the Breusch-Godfrey serial correlation test, and the CUSUM Test. The results of the two tests are shown in Table 6 and Fig 1 respectively.

Diagnostic Tests

It is very important to conduct various diagnostic tests while building and estimating models. The specification of every econometric model should be thoroughly tested before we even tentatively accept its results, Davidson and Mackinnon (1999). Here we will consider some of the important diagnostic tests that are available, starting with the Breusch-Godfrey serial correlation test, and the CUSUM Test.

Table 6: Residual Diagnostics for the Parsimonious Model

Breusch-Godfrey serial correlation test	
Ho: residues do not exhibit serial correlation	
Observed R-squared	Chi-Squared(2) P-value
0.100962	0.9508

The p-value from the Breusch-Godfrey serial correlation test happens to be greater than 0.05. This implies that we accept the null hypothesis. In other words, no serial correlation exits among the residues.

Figure 1: CUSUM Test (Parameter instability test)
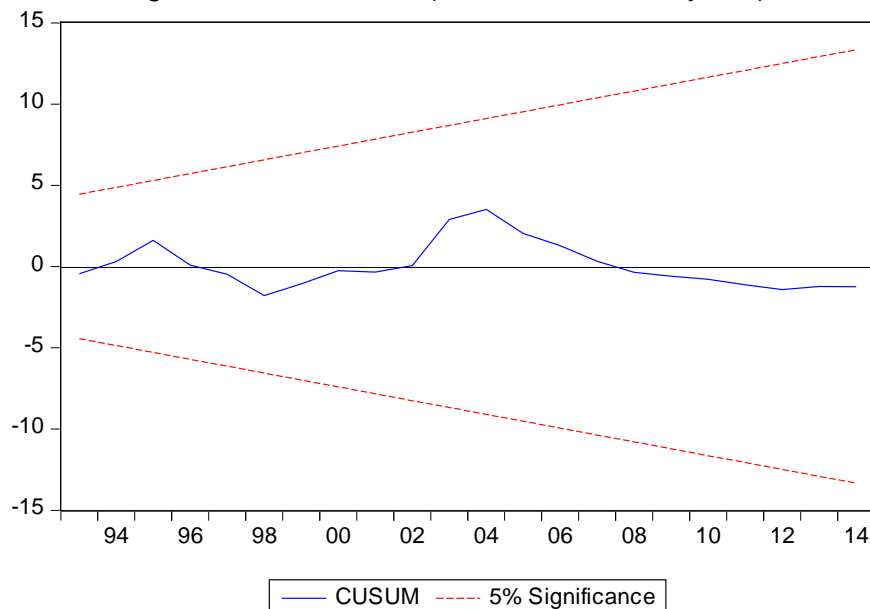
The CUSUM Test presented in figure 1 above is an indication that the parameters of the model are relatively stable over time as the cumulative sum does not go outside the area between the two critical lines. These three outcomes, the DW value, Breusch-Godfrey test, and the CUSUM Test clearly shows that equation 2 is a non-spurious regression.

CONCLUSION

This study aims at finding the relationships between unemployment rate and variables like GDP Growth Rate, Inflation Rate (CPI based), Openness of Trade, and Private Domestic Investment in Nigeria. This study applies augmented Dickey Fuller Unit Root tests to verify the stationarity of the data series and the Johansen co-integration test was used to test for the existence or not of a long run relationship among the variables. The results reveal one co-integrating vector exists among the variables of interest. Since the variables are co-integrated, the study proceeds to estimate the short run relationship between unemployment and its determinants by adopting the Error Correction Model. The result shows that GDP growth rate, inflation rate, degree of openness, and private domestic investment are statistically significant in influencing unemployment in the short run, particularly during the period under consideration. Some are significant at their levels or current value, while others were significant at the lag.

The coefficient of ECM is (-0.24) which shows high speed of adjustment from short run fluctuations to long run equilibrium (24% discrepancy is corrected each year) approximately 24 percent of disequilibrium from the previous year's shock convergence back to the long run equilibrium in the current year. This supports the existence of a satisfactory speed of adjustment. It is thus recommended that policies focusing on increasing GDP growth should be implemented. Private sector investment should be encouraged by the government all levels. Government should decrease trade restriction and this will result in an increase in openness of trade.

This study specifically investigated the Macroeconomic Determinants of Unemployment in Nigeria; it becomes imperative to suggest that further studies should look at economic policy and employment creation in Nigeria as well as economic and non-economic determinants of unemployment in Nigeria.

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