Employment And Economic Growth In Nigeria: A Bounds Specification

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Abstract
The paper examines empirically, whether or not employment impact significantly and positively on *GDP* growth in Nigeria over the sample period of thirty-eight years. The newly developed bounds testing approach to co-integration was adopted in the study. The results obtained reveal that both the short-run and long-run growth effects of employment in Nigeria are significant and positive. In particular, the results show that for a one-percentage point increase in employment, 0.568 percent real *GDP* growth rate is induced in the long-run. Having ascertained the significance of employment in positively influencing economic growth in Nigeria, the study thus recommends a set of policies to the Nigerian government with a view to enhancing employment and fostering economic growth in Nigeria.
Key words: Employment, economic growth, Bounds, co-integration, stylized facts

1. BACKGROUND

Employment is an economic drift through which human resources are put into productive use. Thus, in the Keynesian economic analysis, employment is envisaged as a pathway to enhance the growth rate of an economy. This is because when there is employment, there is productivity (Keynes, 1936). Hence, the achievement of full employment has often been seen as one of the germane macroeconomic objectives facing any civilization. The opposite of employment is unemployment, which signifies wastage of human resources because goods and services that could have been produced are forgone. As at 2007, the Nigerian unemployment rate was estimated at 10.8 percent (World Bank, 2007). This has made it possible for about 57 percent of the Nigerian population to live below the poverty line on less than US$1 per day (UNDP, 1990). According to Okigbo (1986), unemployment is a national curse that has assumed a universal dimension. This indeed, corroborates Umo's position that the unutilized large quantum of human resources in Nigeria due to non-availability of employment opportunities has the possibility of impeding the country's growth prospect (Umo, 1995). In essence, the persistence of unemployment is an indication that the economy is throwing away output by failing to utilize its human capital. This has been against the back-drop of the fact that when human capital is not been utilized, actual output would be less than potential output.

As of 2009, Nigerian labour force employment by sector was 70 percent in agriculture, 20 percent in services and 10 percent in industry (Table 1). The oil industry, though a major contributor to foreign exchange earnings, employs less than one percent of the labour force (Sodipe and Ogunrinola, 2011). Currently, the total work force in Nigeria is 52,510,219 people (CIA World Fact Book, 2010). This is the population between the ages of 20 and 59 years. The government employs about 2, 475,800 workers of the work force. This is about 5 percent of

the working population and represents only 8 percent of the employment in the country. Thus, the rest of the employment, 92 percent is provided through the private sector. A total of 28,421,008 people were employed in the private industry and service sectors between 1999 and 2005 (National Bureau of Statistics, 2006). Between 1990 and 2000, a number of private firms laid off almost 9 percent of the work force owing to tightening business environment. This led to a decrease in the employment in the formal private sector between 1990 and 2000.

With the end of the oil boom in 1982, Nigeria found itself in a sticky situation of economic problems. Consequently, in July 1986, the government adopted an influential and fundamental economic measure in the form of a *Structural Adjustment Programme (SAP).* One of the major objectives of *SAP* was "*to restructure and diversify the productive base of the economy in order to reduce dependence on the oil sector and on import*" as a means of achieving fiscal and balance of payments viability in the medium term and laying the basis for a sustainable growth of the economy in the long term. During the *SAP* era, the rural sector seems to have absorbed more labour than the urban (Adekanye, 1995). According to National Bureau of Statistics (2010), an active population and a gainfully employed labour force have high potential to contribute to the growth of national output for economic development. The study is therefore set out to ascertain whether or not employment impact significantly and positively on economic growth in Nigeria. in view of the reseach objective, we hypothesized that employment has no significant positive impact on the growth rate of *GDP* in Nigeria. This paper is thus of policy significance as it answers the question, "does employment matter for *GDP* growth in Nigeria?" What is the level or magnitude of employment in Nigeria? The remaining part of the paper is organized into six sections. Section two provide a succint stylized growth fact analysis. Section three reviews prior empirical studies on the growth effects of employment. Section four expouse on the methodology, specification of empirical model and the method of estimation. Section five discuses the regression results. Lastly, section six concludes the paper.

2. STYLIZED FACTS

2.1. Growth Performance and Employment Trends in Nigeria

In 2005, the *GDP* was composed of 26.8 percent of agriculture, 48.8 percent of industry and 24.4 percent of services (Adebayo and Ogunrinola, 2006). The country's *GDP* per capita which gained its peak at 283 percent in the 1970s, is today ranked 31st in the world in terms of purchasing power parity comparisons (CIA World Fact Book, 2010). In 1983, GDP growth rate was negative, -5.4 percent. It gained improvement in 1988 at 10 percent (World Bank, 1995). Even at this improvement, employment only rose from 29.7 million in 1980 to 30.6 million in 1994. Thus, over the entire period, employment rose by 1 million while output increased by almost ₦28 billion. In effect, this implies that growth rate of employment lagged behind *GDP* growth between the periods of 1980 through to 1994. This has been attributed to underutilization of capacity in the country. As it were, the capacity utilization rate fell steadily from 70.1 percent in 1980 to 47.8 percent in 1983, from where it crash down to a miserable 29.2 percent in 1994.

With regard to the totality of the foregoing, it seems that the Nigerian economy has been relatively unstable. Such macroeconomic instability is easily inveterated by the volatility of the key macroeconomic aggregates, particularly *GDP* growth, employment rate, inflation rate and capacity utilization rate. For example, the inflationary spiral in the country has been estimated as a 12-month average of 7.8 percent in 2009 (World Bank, 2010). The growth rate of the Nigerian labour force which has been found relatively constant is 2.6 percent per annum (Table 1). With this labour market growth (2.6%) which is less than the growth rate of the population, it means that over a period of ten years say, 2000 to 2010, there was an aggregate rise of about 26 percent in the labour force that could not get employment in the formal sector. By intiution, a greater percentage of the labour force would have been unemployed if the growth rate of the labour force was the same with that of the population.

Table 1: Economy of Nigeria, Macroeconomic Policy Indicators, 2010 - 2012

Growth Indicators	**Statistics**	**Year**
GDP (Nigerian PPP)	US$374.3 billion	2010
GDP Growth Rate (Per capita)	7.8	2010
GDP (Per capita)	US$2,500	2010
GDP (by sector)	US$1,200	2010
• Services	28.6	2010
• Industry	29.6	2010
• Agriculture	48.5	2011
Employment Indicators	**Statistics**	**Year**
Labour Force (size)	47.33 million (%)	2009
Labour Force (growth)	2.6	2012
• services	20	2012
• industry	10	2011
• agriculture	70	2012
Employment (by sector)	2.6	2012
• government	8	2012
• private sector	92	2011
Unemployment (size)	46 million (%)	2012
Unemployment (growth rate)	4.9	2012

Source: Central Intelligence Agency (CIA) World Fact Book

3. REVIEW OF LITERATURE

3.1. Empirical Studies on the Growth Effect of Employment: A Brief Survey of the Evidence

There exists an enormous amount of empirical literature on the relationship between employment and *GDP* growth. These empirical studies include the works of Iyoha (1978), Oladeji (1987), Becker et al. (1990), Barro (1991), Ogunrinola (1991), Levine and Renelt (1992), Layard et al. (1994), Anyanwu (1995), Pandalino and Vivarelli (1997), Walterskirchen (1999), Fofana (2001), and Onwioduokit (2006), Swane and Vistrand (2006), Sawtelle (2007), Yogo (2008) and Sodipe and Ogunrinola (2011). The general consensus from all the empirical

studies is that employment occupied a vintage position in the analysis of economic growth in most developing and developed countries. Specifically, employment has been thought of as a pathway to enhance the growth rate of an economy (Iyoha, 1978; Oladeji, 1987; Becker et al.1990; Barro, 1991; Ogunrinola, 1991; Levine and Renelt, 1992; Barro, 1991; Becker et al.1990 and Onwioduokit, 2006).

In Nigeria, Iyoha (1978) opined that employment generation is a significant drive of the growth rate of *GDP* in Nigeria. Sodipe and Ogunrinola (2011) formulated a simple model of employment that was subjected to *Least Square* estimation haven corrected for *non-stationarity* on the basis of the *Hodrick-Prescott filter.* The result of their econometric analysis shows that a positive and statistically significant relationship exists between employment level and *GDP* growth in Nigeria. In this regard, Sodipe and Ogunrinola (2011) obtained the empirical finding that supports the strand of theory suggesting that the positive relationship between *GDP* and employment is normal and that any observed jobless growth might just be a temporary deviation. According to Anyanwu (1995), unemployment like inflation is a symptom of basic economic disequilibrium. He further added that employment is a necessary and positive instrument to accelerate the rate of economic growth in countries suffering from acute slow growth. Indeed, Anyanwu (1995) argued that if the abundant human resources is highly utilized, it would serve as a great catalyst to economic growth but if otherwise, could exert negative influence on the economy.

In their panel data study, Pandalino and Vivarelli (1997) obtained a significant positive growth effect of employment for the G-7 countries. Fofana (2001) argued that the employment- growth relationship is significant and positive for Cote d'Ivoire haven utilized time series data in the study. Fofana results were never in isolation as they were corroborated by those obtained by Swane and Vistrand (2006). Using the employment-population ratio as a proxy variable for employment generation index, Swane and Vistrand (2006) found a significant and positive relationship between *GDP* growth and employment growth in Sweden. On his part, Yogo (2008) posits that the employment issue in sub-Saharan Africa is mostly a matter of quality rather than quantity. In particular, Yogo (2008) observed that the weak employment-growth nexus is not attributable to labour market rigidities; but rather to the weakness of productivity growth over time. According to Walterskirchen (1999), the relationship between *GDP* growth and change in unemployment is in two folds namely; those changes in employment and unemployment rates governed by economic factors as well as those governed by demographic influences and labour market policies. The author thus investigated the relationship between economic growth, employment and unemployment in the European Union on one hand, and on the other analyzed the link between economic growth and the labour market. In sum, Walterskirchen (1999) found that a strong positive correlation between *GDP* growth and change in the level of employment. Sawtelle (2007) estimated a significant positive elasticity of employment with respect to real *GDP* in each of fourteen industry sectors of the US with respect to changes in real *GDP* during the ten year period of 1991-2001. Layard et al (1994) posits that unemployment reduces output and aggregate national income. It erodes human capital.

4. METHODOLOGY AND MODEL SPECIFICATION

4.1. Bounds Testing Methodology and Model Specification

The study employed the recently developed econometric technique of bound co-integration analysis in analyzing the data. This bounds testing technique to co-integration is due to Pesaran, Shin and Smith (2001). It is a technique of testing the existence of a level relationship between a regressand and a vector of regressor, when it is indeed unknown with certainty whether the underlying set of regressor are trend stationary or first stationary. The approach is based on the specification of an autoregressive distributed lag (ARDL) model. The econometrically illuminating advantages of the bounds testing technique include the fact that the endogeneity problems and inability to test hypotheses on the estimated coefficients in the long-run associated with the Engle-Granger (1987) method are avoided, the long and short-run parameters of the model under study are estimated simultaneously, the econometric methodology is devoid of the task of establishing the order of integration amongst the variables and of pre-testing for unit roots. By implication, the *ARDL* approach to testing for the existence of a long-run relationship between the variables in levels is applicable irrespective of whether the underlying regressors are purely *I*(0), purely *I*(1), or fractionally integrated.

In effect, the bounds testing approach allows a mixture of *I*(1) and *I*(0) variables as regressor with the implication that the order of integration of variables may not essentially be the identical. Therefore, the ARDL technique has the advantage of not requiring a specific identification of the order of the underlying data (Pesaran *et al*., 2001). Thus, the procedure is to test the significance of the lagged levels of the variables in a univariate equilibrium error correction mechanism. Pesaran et al (2001) developed two set of asymptotic critical values namely, set one is the set for purely *I*(1) regressors and the other set is for the purely *I*(0) regressors. Following Pesaran *et al*. (2001), we assemble the vector auto-regression (VAR) of order *p,* denoted VAR (*p*), for the following growth equation:

$$G_t = \Theta + \sum_{i=1}^{p} \delta_i Z_{t-i} + \upsilon_t \qquad \textbf{(3.1)}$$

Where Z is the vector of both the regressors and lagged values of the regressand, *t* is a time or trend variable. According to Pesaran *et al*. (2001), the regressand must be *I*(1) variable, that is, first differenced stationary, but the set of regressors can be either *I*(0) or *I*(1). The corresponding vector error correction model (VECM) is thus specified as follows:

$$\Delta G_t = \alpha + \phi t + \theta G_{t-1} + \sum_{i=1}^{p-i} \lambda_i \Delta Z_{t-i} + \sum_{i=1}^{p-1} \lambda_i \Delta G_{t-i} + \upsilon_t \qquad \textbf{(3.2)}$$

Where Δ is the first-difference operator, G is the regressand defined as the growth rate of real *GDP* a proxy variable for economic growth, Z is the vector of regressor which we have in this study as employment rate *(EMPT),* capacity utilization rate *(CAUT),* gross fixed capital formation as a percentage of *GDP (GCFF)* and the public expenditure *(PEXP).* As usual, *t* is a time (trend) variable and υ_t is a Gaussian stochastic disturbance term. The long-run multiplier matrix Θ is defined as:

$$\Theta = \begin{pmatrix} \Theta_{YY} & \Theta_{YX} \\ \Theta_{XY} & \Theta_{XX} \end{pmatrix}$$

The diagonal elements of the matrix are unrestricted, so the selected series can be either *I*(0) or *I*(1). If $\Theta_{YY} = 0$, then *Y* is *I*(1). In contrast, if $\Theta_{YY} < 0$, then *Y* is *I*(0). The *VECM* procedure is imperative in testing for at most one co-integrating vector between the regressand and the vector of regressors. Thus, following Pesaran *et al*. (2001) as in their Case III of unrestricted intercepts and no trends, having imposed the restrictions $\Theta_{YY} = 0, \alpha \neq 0$ and $\phi = 0$, our unrestricted error correction *ARDL* unrestricted error correction model can be derived as follows.

$$\Delta(GGDP)_t = \beta_0 + \beta_1(GGDP)_{t-1} + \beta_2(EMPT)_{t-1} +$$

$$\beta_3(CAUT)_{t-1} + \beta_4(GCFF)_{t-1} + \beta_5\left(PEXP\right)_{t-1} +$$

$$\sum_{i=1}^{p} \beta_6 \Delta(GGDP)_{t-i} + \sum_{i=0}^{q} \beta_7 \Delta(EMPT)_{t-i} + \sum_{i=0}^{m} \beta_8 \Delta(CAUT)_{t-i} +$$

$$\sum_{i=0}^{l} \beta_9 \Delta(GCFF)_{t-i} + \sum_{i=0}^{j} \beta_{10} \Delta(PEXP)_{t-i} + \upsilon_t \quad (3.3)$$

Equation (3.3) is *ARDL* of order (*p, q, m, l, j*) which holds that economic growth is predisposed to be determined by its own lag, the lag values of growth rate of gross domestic product (*GGDP),* employment rate *(EMPT),* capacity utilization rate *(CAUT),* gross fixed capital formation *(GCFF)* and public expenditure *(PEXP).* The structural lags are conventionally determined on the basis of minimum Akaike's information criteria (AIC). From the estimation of ARDL unrestricted error correction model, the long-run elasticities are the coefficients of one-period lag of the regressors (multiplied by a negative sign) divided by the coefficient of the one-period lagged value of the regressand (Bardsen, 1989). Accordingly, as in our *ARDL* model, the long-run elasticity effects of employment, capacity utilization, gross fixed capital formation and public expenditure are computed as (β_2 / β_1), (β_3 / β_1), $\left(\beta_4 / \beta_1\right)$ and $\left(\beta_5 / \beta_1\right)$ respectively. The short-run effects are obtained directly as the estimated coefficients of the first-differenced variables in the *ARDL* model.

4.2. The Wald Test for Short-run Causality: Zero Restriction Hypothesis

Having estimated our unrestricted error correction ARDL model, the Wald test based on the standard *F*-statistic was computed to establish the co-integration relationship between the variables in the study. The Wald test was conducted by imposing the following restriction on the estimated long-run coefficients of economic growth, employment rate, capacity utilization as percentage of *GDP,* and gross fixed capital formation as a percentage of GDP.

$$H_0 : \begin{pmatrix} \beta_1 \\ \beta_2 \\ \beta_3 \\ \beta_4 \\ \beta_5 \end{pmatrix} = 0 \quad , \quad H_1 : \begin{pmatrix} \beta_1 \\ \beta_2 \\ \beta_3 \\ \beta_4 \\ \beta_5 \end{pmatrix} \neq 0$$

The null (alternative) hypotheses hold that co-integration relationship does not exist(exist) respectively. The computed Wald statistic adjudged significant or insignificant on the basis of the critical values tabulated in *Table CI (iii)* of Pesaran et al. (2001). The time series data utilized in the study covered the sample period, 1975 to 2012. The data on real gross domestic product, capacity utilization and public expenditure were sourced from various issues of the *CBN*'s annual report and statistical bulletins. Public expenditure was proxied by total government expenditure which consists of both recurrent and capital. Data on employment were sourced from the bulletins of the Federal Office of Statistics.

5. RESULTS

The Bounds results of the unrestricted error correction ARDL model are reported in Appendix **A1**. The coefficient on employment is positive and statistically significant. This indeed, empirically rationalized validate the hypothesis that employment positively and significantly stimulate long run economic growth. For the control variables in the study, the results reported a negative long run impact on the growth rate of *GDP*. The finding thus implies that capacity utilization does not positively influence long run growth. For the control variables, *GFCF* is positively significant at ten percent significant level. This finding shows that an increase in gross fixed capital formation will increase the economic growth in long run. The coefficient of model determination having adjusted for degrees of freedom is 0.625. As it were, 62.5 percent of the total variation in the growth of real output is corrected for within one year of adjustment. Thus, having adjusted for degrees of freedom, the estimated error correction model can be adjudged statistically fit and robust. The F-statistic is 15.998. This is highly significant. It implies an overall significance of the estimated model. This indeed is a re-enforcement of the goodness of fit of the estimated error equation. The reported F ratio passes the significance test at the conservative half percent level of significance. This goes along extent to indicate the existence of a significant linear long-run relationship between the growth rate of national output and the level of employment in Nigeria. On the part of individual significance of each explanatory variable, it is evident that capacity utilization is vital for stimulating the growth rate of output in Nigeria. Gross capital formation also passes the test of significance at the 5 percent level of significance. In effect, these suggest that employment, capacity utilization and gross capital formation economic growth are significant determinants of growth in Nigeria.

This further reinforces the fact that the results reported are of policy significance. The results of the bounds co-integration test (Appendix **A2**) rejects the hypothesis of no co-integrating relationship between the growth rate of *GDP,* employment, capacity utilization, gross fixed capital formation and public expenditures at the one percent significance level. In simple terms therefore, the results show that there is long-run relationship between employment, capacity utilization, gross fixed capital formation, total government expenditure proxied for public

expenditure and *GDP* growth in Nigeria. This is against the back-drop of the fact that the computed *F*-statistic of 6.555 is greater than the lower critical bound value of 3.74. The long-run elasticity of the *GDP* growth rate with respect to employment is 0.568 in Nigeria (Appendix **A3**). Econometrically revealing is the robustness of the estimated regression results. This is made evident by the diagnostic statistical checks which include the *Breusch-Godfrey serial correlation LM test, ARCH test for heteroskedasticity, Jacque-Bera normality test and Ramsey RESET specification test*. All the tests disclosed that the model possess the desirable BLUE properties. Indeed, the model's residuals are serially uncorrelated, normally distributed and homoskedastic. Therefore, the estimated set of results is devoid of the econometric problems of autocorrelation, misspecification and heteroskedastcity.

Using the Wald statistical test procedure, the dynamic short-run causality effect was determined by placing the zero restriction on the coefficients of employment, capacity utilization, gross fixed capital formation and public expenditure with their lag values also equated to zero. The results are as reported in Appendix **A4**. On the rejection of causality among the aforementioned regressors, we indeed establish that employment, capacity utilization, gross fixed capital formation and public expenditure are statistically significant to granger-cause *GDP* growth rate in Nigeria at both the one percent and five percent significance levels respectively. Following Pesaran and Pesaran (1997), we tested for long-run coefficient stability on the basis of the *CUSUM and CUSUMSQ*. Figures Z^1 and Z^2 plot the *CUSUM* and *CUSUM* of squares statistics. The results clearly indicate the absence of instability of the estimated coefficients because the plot of the *CUSUM and CUSUMSQ* statistic(s) is within the confines of the five percent critical bounds. In effect therefore, the estimated long-run parameters are stable as there are no structural breaks. By implication, our parameters are reliable.

Figure 1: CUSUM and CUSUMSQ Plot of Structural Break Points

Fig. Z^1: CUSUM

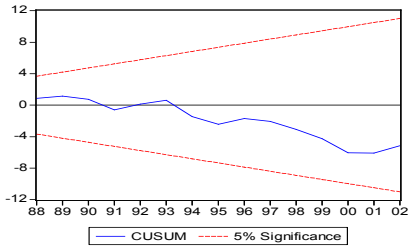
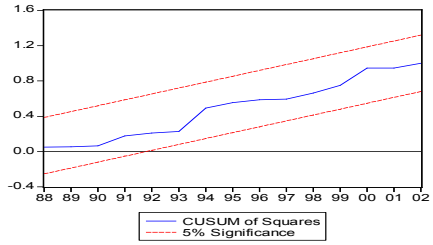


Fig. Z^2: CUSUMSQ



6. CONCLUSION

In this paper, we empirically explored the the role of employment in stimulating economic growth over a thirty-eight year sample period. With employmnet being the key variable under study, other regressors namely, capacity utilization, gross capital formation and public of all the aforementioned variables with the growth rate of *GDP* were tested on the basis of an estimated econometric model. Flowing from the empirical results is the fact that employment and econmic growth are positively related in Nigeria. The major finding is that

employment contributes significantly to *GDP* growth in Nigeria. This then suggest the need for policies to enhance emploment prospects with the ultimate aim of fostering a sustained increase in the growth rate of real *GDP*. Thus, the Nigerian government should implement a broad set of employment generating policies that can help abridge unemployment. In addition, policies should be put in place to intensify existing employment promotion programmes. This is highly desirious considering the urgent need to aptly enhance the growth prospect of the economy.

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BIOGRAPHY

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APPENDICES

Appendix A1: Bounds Results

Regressand: Log(GGDP)	
Panel A: Long-Run Estimates	
Regressor(s)	*Coefficient (t-statistics)*
Constant	*4.095* (25.605)*
Log (GGDP$_{-1}$)	*0.0269* (13.436)*
Log (EMPT$_{-1}$)	*0.826* (4.662)*
Log (CAUT$_{-1}$)	*-0.002 (-0.228)*
Log (PEXP$_{-1}$)	*1.052*** (2.999)*
Log (GCFF$_{-1}$)	*1.228 (5.656)*
Panel B: Short-Run Estimates	
Δ *Log (GGDP)*	*0.224****

	(2.688)
Δ *Log (GGDP$_{-1}$)*	*0.556** *(4.082)*
Δ *Log (EMPT$_{-1}$)*	*0.426**** *(2.255)*
Δ *Log (EMPT$_{-2}$)*	*0.222**** *(2.856)*
Δ *Log (PEXP$_{-1}$)*	*0.244* *(1.452)*
Δ *Log (PEXP$_{-2}$)*	*0.244**** *(2.652)*
Δ *Log (GCFF$_{-1}$)*	*0.698** *(2.226)*
Δ *Log (GCFF$_{-2}$)*	*1.062* *(9.466)*
Goodness-of-fit Measures	
R^2 , Adjusted R^2, F-statistic	*0.683,0.625, 15.998*
Sum of Squared Residuals	*0.0066*
Standard Error of Regression	*1.0222*
Diagnostic Statistical Checking	
Jacque-Berra	*1.6682 [0.0028]*
Ramsey-Reset	*1.0255 [0.2255]*
$LM_{(SC)}$ Breusch Godfrey	*1.0662 [0.5292]*
ARCH Test Statistic	*0.2662 [0.3266]*
White Test Statistic	*0.2446 [0.3358]*
*Note: ***, ** denotes statistical significance at the 1% and 5%levels. Figures in ( ) and [ ] square parentheses are the t and probability values of significance respectively*	

Appendix A2: Bound Testing Approach to Co-integration

	Level of Significance	Critical Value
(α %)	*Lower*	*Upper*
*1% Significance[*1]*	*3.74*	*5.06*
*5% Significance[*2]*	*2.86*	*4.01*
*10% Significance[*10]*	*2.45*	*3.52*

*Computed F-statistic: **6.555******

Note: critical values are cited from *Pesaran et al. (2001),* Table CI (iii), Case111: Unrestricted intercept and no trend. Refers to the number of estimated coefficients and *** denotes significance at 1% level

Appendix A3: Long-Run Elasticity of Economic Growth with respect to Employment in Nigeria

Variable	Long-run Elasticity
Log (EMPT)	*0.568***
*Note: *** denotes statistical significance of the computed long-run elasticity at the 5% level.*	

Appendix A4: Short-Run Causality Results from the Wald Statistical Hypothesis Test

Variable(s)	Test Statistic (s) [p-value(s)]
Δ *Log (EMPT)*	*5.255** *[0.0000]*
Δ *Log (CAUT)*	*12.255** *[0.0000]*
Δ *Log (GCFF)*	*2.562**** *[0.0426]*
Δ *Log (PEXP)*	*13.002**** *[0.0000]*
Note: *, *** denotes statistical significance at the 1 percent and 5 percent levels. Figures in parenthesis are the marginal significance values	

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