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The Determinants of Unemployment and the Question of Inclusive Growth in Nigeria: Do Resource Dependence, Government Expenditure and Financial Development Matter?

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ABSTRACT

Abstract The paper examines the determinants of unemployment in Nigeria from 1981 to 2013, using error correction model (ECM), and with ordinary least squares method for robustness check. The study finds that output size (measured by GDP), foreign direct investment, exchange rate depreciation, and trade openness curb labour unemployment in Nigeria, while factors that worsen labour unemployment include financial development (measured by private credit), intensive capacity utilisation, and natural resource rent. Government capital expenditure, though not significant, increases unemployment rate in Nigeria, alluding to corruption and the tendency for public officers to divert funds to accumulate political capital, rather than socially productive ones. Inflation produces mixed outcome in both the short-run and long-run estimation. The study has confirmed that resource dependency, shallow financial depth, poor public expenditure management, and wrong production technology choice undermines unemployment in Nigeria, and thus attainment of inclusive growth. This calls for intensified efforts at financial sector liberalization drive to broaden the financial system, improve institutional quality, and adopting economic diversification strategy to reduce structural misalignments and attain a non-declining inclusive growth in Nigeria.

1. INTRODUCTION

The statistic on unemployment rate is one of the most prominent indicators of how well an economy is performing because of the perceived difficulty to finding a job, especially during periods of recession. Thus, knowledge of factors that influences unemployment rate could be a veritable platform to designing and adopting appropriate policy strategy aimed at achieving inclusive growth. Although unemployment applies to all resource inputs used in production process, the term is however, used in relation to labour unemployment in both political and eco-

nomic circles (see Iyoha, et al., 2003). The reason is that the bizarre movements in labour employment also translate directly to employment outcomes of other factor inputs.

In Nigeria, for example, of the vast increases in population growth annually, it has been observed that unemployment rate has continually maintained an upward trajectory, especially since year 2001. It averaged 14.7% and 18.5% for 2001 - 2010 and 2011 - 2013 periods, respectively, from an average of less than 6% in 1981 to 2000 periods. Most economic indicators for the period rose relatively, including capacity utilization rate, real GDP, FDI and government expenditure. The broad trends are summarized in Table 1.

Table 1. Selected economic indicators, 1981 – 2013

Indicators	*1981-1990*	*1991-2000*	*2001-2010*	*2011-2013*
Unemployment Rate	5.36	5.54	14.70	18.57
Real GDP per Capita	598.25	550.33	793.11	942.30
Natural Resource Rent	37.20	39.05	34.64	33.95
Govt Capital Expenditure (N'billion)	8.98	184.37	618.17	869.91
Private Credit/GDP	9.84	8.17	17.32	20.94
Aggregate Firms' Capacity Utilisation Rate	47.36	34.30	53.65	54.91
Foreign Direct Investment/GDP	1.99	4.62	3.30	2.85
Inflation	19.91	30.58	13.43	11.04
Secondary School Enrolment Rate	25.08	24.46	33.88	38.78
Population (millions)	85.30	110.07	142.02	156.16

Sources: Author, but underlying data from IMF

Most economic researchers consider unemployment phenomenon as one of the greatest challenges facing the Nigerian economy and the quest to attaining inclusive growth. The rise in unemployment rate may be attributed to inappropriate policies adopted, especially the abandoning of the agriculture, which was before the oil-boom era, considered as the engine for economic growth.

There are however, very limited studies which try to ascertain the determinants of unemployment in Nigeria from a broader perspective. A major contribution of this study is an attempt to endogenise unemployment by including both social and institutional factors to capture the structure and dynamics of the Nigerian economy. The reason is that it remains unclear what constitute the key determinants of unemployment in Nigeria. Does structure of economic arrangements matter? What role does the dependence on natural resources play in the current unemployment challenges in the country? Dependence on natural resource, for example, has been found to undermine institutional efficiency which also affects economic structure and growth trajectory (Beck, 2011). Has financial development, following financial reform in the past three decades in Nigeria, stimulated employment? Thus, financial development, through its interface with the real economy, then enters as a possible determinant of unemployment, and the variable has been overlooked in extant studies.

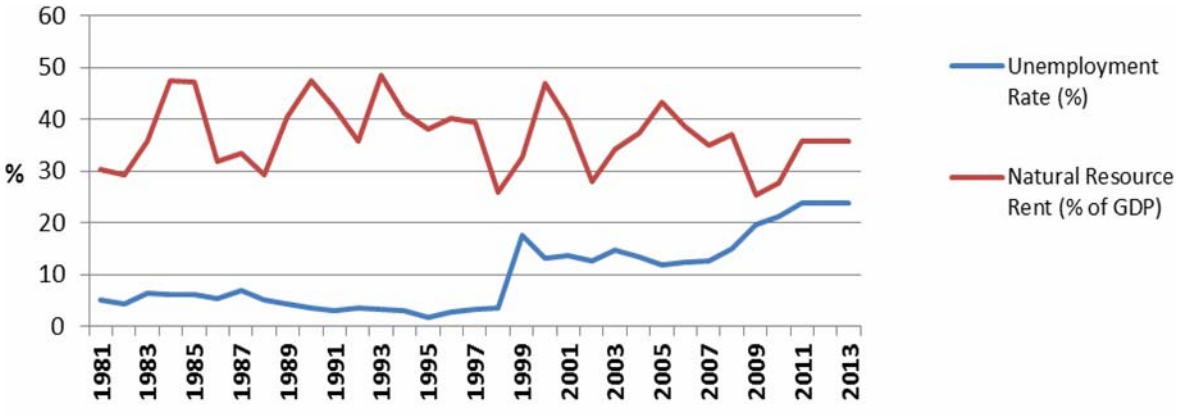
This paper is organized into five sections. Following this introductory section, section two provides a review of relevant literature. Section three discusses theoretical framework, with methodology and model specification. Section four discusses the empirical results, while the last section contains concluding remarks, and recommendations.

2. REVIEW OF RELATED LITERATURE

2.1 Stylised Facts on Unemployment Incidence in Nigeria

Structural factors and macroeconomic policies raise the spate of unemployment in Nigeria, especially among the young and jobless poor (see Garba and Garba, 2013). This may be attributed to the skewed nature of Nigeria's fiscal system that is notably built around revenues from export of her hydrocarbon endowment. Several researchers have hinted that before the oil boom of the 1970s, agriculture was the mainstay of the Nigerian economy, accounting for a third of the gross domestic product (GDP); about two-thirds of labour employment, substantial supply of raw materials for industries, and large proportion of non-oil export earnings (see Iyoha, 1992; Canagarajah 1997; Obadan 1998; Auty, 2001). It seems logical, therefore, to expect that the poor linkage-effect of mining sector due to its enclave and capital-intensive nature would aggravate unemployment rate. Studies by Gelb, (1988); Auty, (2003) argued that inappropriate macroeconomic policies adopted during the resource-boom era, led to a massive misallocation of resources in Nigeria. A look at Figure 1 portrays a disturbing inverse relationship between unemployment rate and natural resource rent.

Figure 1. Trend Analysis of Credit to Private Sector and Natural resource rent, 1980-2013



Sources: Author, but underlying data from IMF

As documented in studies by Levine, (2005) the motivation of financial sector reform in most African countries was summarized into three categories, namely: the need to improve the monetary control system so as to boost the savings mobilization and allocation; to improve the banking system; and also to enhance the structure of interest rates. Broadly, financial liberalization was adopted in Nigeria with a view to boost financial depth, promote credit flow to the real economy, and hence stimulate employment and entrepreneurship. Access to financial services (savings and loans) is increasingly recognized as the link between growth and poverty reduction (Sowa, 2002; Arestis and Caner, 2004; Bakwena and Bodman, 2010; Zhuang, et al., 2009; IMF, 2013). Theory suggests that financial market imperfection is particularly harmful for poor entrepreneurs without collateral, credit histories, or connections. (Galor and Zeira, 1993; Gulde, et al., 2006). Empirical evidence indicates that finance is a binding constraint to firm growth (and by extension factor employment), and also among new firms that rely on external financing (see Beck, Demirguc-Kunt and Maksimovic, 2005).

Okojie (2013) hinted that with a population growth of about 2.7% – 3.2%` in Nigeria, and increases in labour force that far outstripped growth in number of available jobs would naturally result in high and unsustainable unemployment rate. National Population Commission, NPC's 2010 Report indicates that 62% of the Nigerian population is below age of 25, while about 83% are under age of 40. Table 2 shows the growth rate of labour force, employment and unemployment from 2007 to 2011. It is often argued that idle persons can readily be culled and used like instruments by conflict-ridden member of the society for personal gain. The social dimension of high unemployment rate has proved daunting, and as such, many more researches have investigated the link between unemployment and economic growth (see Obadan and Odusola, 2001; Zagler, 2006).

Table 2. Growth rate of labour force, employment and unemployment in Nigeria

Year	*Labour Force*	*Employment*	*Unemployment*	*Job Gains/ Job Loss*
2007	3.20	2.73	6.56	1,375,259.00
2008	3.20	0.60	21.08	310,228.00
2009	3.20	-2.62	36.45	-1,364,820.00
2010	3.20	1.02	12.11	514,798.00
2011	3.20	-0.08	15.26	-42,231.00
Average	3.20	0.33	18.29	158.65

Source: Garba and Garba (2013)

A critical appraisal of Nigeria's unemployment incidence can aptly be categorized in line with the unique demographic characteristics of the country. Table 3 shows the unemployment rate by age composition. From the table, it can be seen that the second highest cadre of unemployed persons in the country is among the so-called active-segment of the population, 25 to 44. However, in terms of the geopolitical structure of the country (Table 4), unemployment is highest in the North-East and North-West region of the country. This may cautiously explain the occurrence of wide-spread poverty, violence and insecurity in those parts of the country relative to other geopolitical regions. From the observed data and practices in Nigeria, the problems and causes of unemployment in Nigeria are multifaceted, and hence conventional theoretical explanations of unemployment become inadequate.

Table 3. Unemployment rate by age structure

Age Group	*Urban*	*Rural*	*Composite*
15-24	33.5	38.2	37.7
25-44	16.3	24.1	22.4
45-59	12.5	19.6	18
60-64	17.8	22.1	21.4
National	17.1	25.6	23.9

Source: National Bureau of Statistics (2010)

Table 4: Geopolitical structure of Nigeria's labour unemployment rate

Geopolitical Zone	*States*	*Range %*
North Central	Benue(28.4%), Kaduna(25.7%), Kogi(20.1%), Nasarawa(21.6%), Niger(19.4%), Plateau(14.4%), FCT(15.2%).	14.4 -28.4
North East	Adamawa(23%), Bauchi(29.7%), Borno(26.5%), Gombe(29.2%), Taraba(21.6%), Yobe(39%)	23.0 – 39.0
North West	Jigawa(28.6%), Kano(25.7%), Katsina(27.8%), Kebbi(17.6%), Sokoto(32.4%), Zamfara(33.4%)	17.6 – 33.4
South East	Abia(21.6%), Anambra(21.3%), Ebonyi(20.3%), Imo(29.9%), Enugu(15%)	15.0 – 29.9
South-South	Bayelsa(20.7%), Cross River(20.4%), Edo(17.1%), Delta(27.2%), Akwa Ibom(25.8%)	17.1 – 27.2
South West	Ekiti(14%), Ogun(9.9%), Ondo(14.1%), Oyo(8.8%),Osun(17.2%), Lagos(7.6%)	7.6 – 17.2

Source: Garba and Garba (2013)

2.2 Theoretical Literature

There is an overwhelming consensus that to attain higher economic prosperity in any nation, the need to curtail unemployment is important. ILO (1989) defines the unemployed as "...persons who are available and looking for paid-employment, who have registered at any of the employment centres. This excludes persons seeking only temporary or part-time work; students seeking vacation work; persons with any employment seeking other work; retired or other pensioners and invalidity benefit recipients; persons on temporary or indefinite lay-off without pay; persons responsible for the loss of their last job; and persons on strike. However, the conceptual ILO definition of unemployment is increasingly seen as inadequate to characterize low income countries' labor markets (see Cling, et. al. 2006; Fares et al. 2006; World Bank 2006).

As noted earlier, there exist a plethora of factors that can cause unemployment. Economists continue to differ on causes of unemployment and this fact can be seen in the theories of unemployment by foremost economists namely the Classical and Keynesian theorists, even among their disciples. The Classical economists assume that the labour market depends on the real wage that is perfectly flexible, adjusting quickly to equate demand and supply of labour. They posit that involuntary unemployment is a short-term phenomenon that arises from discrepancies between the general price level and money wage. Furthermore, they held that when labour supply exceeds demand, wage level must fall to restore equilibrium, though frictional and structural unemployment still exist. To this ends, output and employment are completely supply-determined such that aggregate demand plays no systematic role in explaining output. Keynes, on the other hand, believes that unemployment occurs when aggregate demand is relatively low, thus leading to demand-deficient unemployment or cyclical unemployment. The idea is that a fall in aggregate demand for goods would mean lower production since wage is assumed to be downward-sticky in the Keynesian system, thus leading to cut in jobs. Keynes believes that fiscal and monetary policies can be used to stimulate aggregate demand to curtail unemployment during period of economic recession.

The short-run Phillip's curve is another theoretical model used to explaining the existence of a relationship between inflation and unemployment created by fluctuations in aggregate demand. Although, recent empirical findings have found that the relationship between inflation and unemployment may be vertical in the long-run, rather than slope from left to right over the short-run periods. Okun's law explains the causal relationship between unemployment and GDP. The implication of the theory leads to the conclusion that growth in GDP directly cut un-

employment rate. A study by Sogner and Stiassny (2002) in modifying the Okun's law, pointed out that it is changes in aggregate demand in the economy that indirectly affect firms decision to expand or contract output, thus influencing labour demand, and hence unemployment. Meanwhile, the International Labour Organization (ILO, 1995) listed the phenomenon of 'jobless growth', macroeconomic instability, dysfunctional labour market, institutional weakness, political instability and lack of international competiveness as causes of unemployment crisis in developing countries.

Financial development, induced by policies of financial reform policy, affects savings and investment decisions. Researchers like, Schumpeter, (1911); McKinnon, (1973); Shaw, (1973); Greenwood and Jovanovic, (1990); Bencivenga and Smith, (1991); King and Levine, (1993a); De Gregorio and Guidotti, (1995); Greenwood and Smith, (1997) contend that well-functioning financial system can promote overall economic efficiency because it can mobilize higher level of savings, enhance capital accumulation, transfer resources from traditional (non-growth) sectors to modern growth-inducing ones, and also promote a competent entrepreneur response to business opportunities. Increases in credit to the private sector should lead to a fall in unemployment due to business expansion.

2.3 Empirical Literature

Studies have shown that the quality of institutions is instrumental in achieving both short- and long-run economic performance, with the possibility of enhancing income and employment opportunities (see North, 1990; Acemoglu, Johnson and Robinson, 2004; Pereira and Teles, 2010). The belief is that raising the level of economic activities even within the context of existing structure would invariably lead to increases in demand for factors of production, including labour, and more especially for labour-intensive production.

Studies by Collier and Hoeffler, (1998); Leite and Weidmann (2002); and more recently by Ogbeide and Mustapha (2013) find that the presence of large deposits of natural resources, irrespective of the types - whether point resource (ores, fuel) or diffuse resource (agriculture), attracts rent-seekers with an overarching negative consequence on the development of appropriate institutions for sustainable long-term economic growth. To this ends, natural resource abundance and dependence, becomes a key structural and institutional factor that influences employment and economic performance dynamics. Empirical evidences indicate that resource-rich countries, on average, have lower and unsteady growth rates, compared to resource-poor countries (Mehrara, Musai and Karsalari, 2011; Sachs and Warner, 1997; Kurronen, 2012).

Several studies have attempted to explain the causes of labour unemployment using broad-based macroeconomic indicators in diverse global regions of the world. Mortensen, (1970) supports the existence of a trade-off between the money wage and unemployment rate which confirms the Phillips curve analysis. Eita and Ashipala, (2010) examined the determinants of unemployment in Namibia from 1971-2007, applying the Engle-Granger two-step econometric approach. The finding of the study was in congruous with the Okun's law and the Harrod-Domar model.

Bakare, (2011) identified labour demand and supply of labour, population, inflation, capacity utilization, gross capital formation (GCF), wage rate and private domestic investment as major determinants of urban unemployment in Nigeria from 1978-2008. In line, Maqbool, et al. (2013) study revealed also that GDP, population, inflation and foreign direct investment are significant determinants of unemployment in Pakistan in both the short-run and long-run analysis for periods from 1976-2012. Bigsten, et al. (2000) and Miller and Upadhyay, (2000) found export-oriented economies to positively influence the growth level of productivity. On the other hand.

Some literatures recognize the relationship between education and the incidence and duration of unemployment. Farber, (2004) finds that job losers with higher levels of education have

higher post-displacement employment rates and are more likely to be re-employed. Using UK data, Nickell, (1979) analyzes the relationship between education and the incidence and duration of unemployment. The study finds schooling up to 12 years reduces the duration of unemployment by over 4%, while education at ordinary levels and above reduces duration by 12%. Similarly, Mincer (1991); Adebayo, (1999); Echebiri, (2005); Okojie (2011) identified low standard of education and the rapid expansion of the educational system as some of the main causes of youth unemployment in Nigeria.

The theoretical link between financial reform and employment opportunities is well-established due to its effects on real economic outcomes (See Epstein and Heintz 2006). In particular, Guiso, Sapienza, and Zingales, (2002) using dataset on households and financial services in Italy finds that financial development enhances the probability that an individual starts a business. Others studies like Sowa (2002); Arestis and Caner (2004); Bakwena and Bodman (2008, 2010); Zhuang, et al., (2009); and IMF (2013) observed that within the general context of macroeconomic reforms, financial development can lead to poverty reduction and employment if financial system makes credit available to the poor.

The effect of government fiscal activities on economic growth, and by extension employment, may be ambiguous. Some studies observed that government intervention can crowd-in private investment, thus alluding to the complete interventionist role by government (Stigler, 1971; Cardoso, 1993; and Ramirez, 2000; Holden and Sparrman, 2014). Some others, for example, Lugo (2001) found contrary results, and sums that, government expenditure crowds-out private investment when: (i) government invests in inefficient state-owned firms; (ii) private investors expect higher taxes to finance increases in expenditures; and/or (iii) the public sector competes with the private sector for domestic credit. Other studies with similar negative effects of government interventions include Acemoglu and Verdier, (1998); Nwosa (2014). More so, studies have shown that inward foreign direct investment (FDI) influences unemployment rate through spill-over effects from economic growth. Researchers, like Brecher (2007), show that countries with huge influx of foreign investments will often witness remarkable output expansion which raises domestic labour demand.

3. THEORETICAL FRAMEWORK AND MODEL SPECIFICATION

3.1 Theoretical Framework

This study adopts the Keynesian framework of aggregate demand. It is believed that aggregate demand is influenced by a host of decisions taken by both public and private sector. The public decisions are most evident in the monetary and fiscal policies. To the Keynesian theory, changes in aggregate demand, whether anticipated or unanticipated, greatly influence output and employment. Thus, stimulating the levels of aggregate demand becomes cogent theoretical link to improve employment and income. From the Keynesian theory, since equilibrium output/employment is given by the equality of aggregate demand and supply, it is expected that any factor that distort the aggregate demand and supply dynamics will invariably affect the employment status of factors of production. Thus, factors like nominal wage rate, price level and its expectation, aggregate consumption and investment level, government spending, as well as degree of economic openness. These variables may influence the equilibrium employment level through their varied effects on aggregate demand and supply dynamics. Inflation for instance, causes a fall in real money supply (M/P). It affects negatively business decisions to invest, and consequently, reduce aggregate demand, output and employment, ceteris paribus. Though, inflation can also serve as an inducement to investors to increase their production.

3.2 Model Specification

This study follows Okun (1983) procedure to show how changes in unemployment is related to growth in real output. Hence, the model to evaluate the determinants of unemployment in Nigeria is tested in an error-correction modeling (ECM).

$$\Delta LUNEMP_t = \phi_0 + \phi_1 \Delta LGDPc_t + \phi_2 \sum_{t=1}^{K} \Delta X_t + \delta \left[ECM\right] + \varepsilon_t \quad (1)$$

Where: $\Delta LUNEMP_t$ and $\Delta LRPGDPx_t$ represent the dependent (unemployment rate) and real per capital GDP (explanatory variable), respectively, in their first difference; X represent other determinants of unemployment from extant literature.

$$\Delta LUNt = \beta 0 + \beta 1 \Delta LCPSt + \beta 2 \Delta LNRRt + \beta 3 \Delta LGDPct + \beta 4 \Delta LTRDt + \beta 5 \Delta LCPIt + \beta 6 \Delta LEXR + \beta 7 \Delta LGCEt + \beta 8 \Delta LCURt + \beta 9 \Delta LFDIt + \delta \left[ECM\right] + Ut \quad (2)$$

Where: UN = Unemployment rate; GDP = gross domestic product; CPI = consumer price index; CUR = manufacturing capacity utilization rate; EXR = real exchange rate; TRD = trade openness; CPS = credit to the private sector; GCE = government capital expenditure; and NRR = Natural resource rent; FDI = Foreign direct investment. The symbol L shows that the variables are in their log form, while the operator Δ represents first difference.

While we use the error-correction modeling (ECM) approach to ascertain the speed of adjustment to long-run equilibrium from a possible short-run distortion, ordinary least square (OLS) was also estimated to ascertain the long-run function. The aim is to compare both results to further enhance policy formation and implementation process in Nigeria. The study avoid spurious regression by conducting preliminary test for stationarity using the Augmented Dickey Fuller (ADF), while Johansen Cointegration technique was employed to investigate the existence of a long-run relationship amongst economic variables. According to Asteriou and Hall, (2007), if the variables are cointegrated, they move together over time so that any disturbances in the short-run are corrected. This indicates that if two or more variables are co-integrated in the long-term, they may drift at random from each other in the short run, but will return simultaneously to equilibrium in the long run. Time-series data extracted from Nigeria's National Bureau of Statistics (NBS) and Central Bank of Nigeria (CBN), as well as from the International Monetary Fund (IMF) and World Bank's World Development Indicators. This study employed the ratio of private credit/GDP1 as proxy for financial development. Other socio-economic factors considered in this study as control, are in line with findings from extant literature.

4 EMPIRICAL RESULTS OF REGRESSION ESTIMATION

4.1 Unit Root and Cointegration Test

Prior to our empirical analysis, we tested for stationarity in the data for estimations. This is necessary to ensure consistent and efficient results. Our Augmented Dickey Fuller (ADF) test statistics are provided in Table 4, and all the variables are stationary at first difference. Thus, our examination concludes that all the series under study are integrated of order 1, I(1). Having confirmed stationarity in our series, it was also necessary to identify the cointegrating relation-

[1] Private credit-to-GDP is often preferred to other measures of financial development in empirical literature because it shows the extent to which the private sector in an economy relies on financial system for funds, as it excludes credit given to the public sector. See studies by Beck, Levine and Loayza (2000); Tressel and Detragiache (2008).

ship before specifying our error correction model. Johansen (1988) procedure was adopted to ascertain whether the series are cointegrated. The cointegrated results are summarized in Table 5. From the result, the trace statistics revealed existence of at most six long-run equilibrium equations in the model. The test was conducted based on the 5% critical level and we do not reject the null hypothesis which states that there is no cointegration.

Table 5. Unit Root (Non-Stationarity) Test

Variables	*ADF t-Statistics*	*ADF Critical Values*	*Order of Integration*	*Remarks*
*Capacity Utilisation	-3.2	-2.96	I(1)	Stationary
Secondary School Enrolment	-4.99	-3.56	I(1)	Stationary
Natural Resource Rent	-5.75	-3.56	I(1)	Stationary
**Real GDP per capital	-3.36	-3.21	I(1)	Stationary
Trade Openness	-4.02	-3.56	I(1)	Stationary
Unemployment rate	-6.95	-3.56	I(1)	Stationary
Inflation rate	-5.33	-3.56	I(1)	Stationary
Government Capital Expenditure	-6.76	-3.56	I(1)	Stationary
Private Credit	-5.6	-3.56	I(1)	Stationary

Notes: * shows stationarity without trend; ** show stationarity at 10% critical level

Table 6: Johansen's Cointegration Test

Unrestricted Cointegration Rank Test (Trace)				
Hypothesized		Trace	0.05	
No. of CE(s)	Eigenvalue	Statistic	Critical Value	Prob.**
None *	0.970393	390.5759	228.2979	0.0001
At most 1 *	0.884766	281.4636	187.4701	0
At most 2 *	0.856132	214.4791	150.5585	0
At most 3 *	0.780206	154.3744	117.7082	0
At most 4 *	0.740209	107.4074	88.8038	0.0012
At most 5 *	0.544069	65.62317	63.8761	0.0354
At most 6	0.437386	41.27533	42.91525	0.0723
At most 7	0.348839	23.44533	25.87211	0.0973
At most 8	0.279134	10.14638	12.51798	0.1207
Trace test indicates 6 cointegrating eqn(s) at the 0.05 level				
* denotes rejection of the hypothesis at the 0.05 level				
**MacKinnon-Haug-Michelis (1999) p-values				

4.2 Discussion of Empirical Results

The empirical estimates are insightful. From the results, the ECM coefficient carries the correct sign and is statistically significant at 1 percent with the speed of convergence to long-run equilibrium remarkably high at 78.5%. This implies that 79% of the disequilibrium in the previous year converges back to its long-run equilibrium in the current year. Our results from the ECM (discussed here) and OLS techniques are broadly similar, though significance levels of parameter estimates differ considerably. Both models are free of first order autocorrelation judging by the DW statistics, but the explanatory power of the model, measured by R2, is higher in the OLS than the ECM analysis.

Table 7. Results from Empirical Models

Dependent Variable: D(LUNEMP) Method: Least Squares Sample (adjusted): 1982 2013 Included observations: 32 after adjustments				Dependent Variable: LUNEMP Method: Least Squares Sample: 1981 2013 Included observations: 33 HAC standard errors & covariance (Bartlett kernel, Newey-West fixed bandwidth = 4.0000)			
Variable	**Coefficient**	**t-Statistic**	**Prob.**	**Variable**	**Coefficient**	**t-Statistic**	**Prob.**
C	0.093	1.267	0.219	C	4.754	1.208	0.239
D(LGDPc)	-0.758	-1.085	0.290	LGDPc	-1.813	-2.420	0.024
D(LCPI)	-0.344	-0.904	0.376	LCPI	0.278	0.863	0.397
D(LCPS)	0.454	2.060	0.052	LCPS	0.891	4.760	0.000
D(LCUR)	1.050	2.098	0.048	LCUR	1.797	3.670	0.001
D(LEXR)	-0.546	-4.202	0.000	LEXR	-0.240	-1.913	0.068
D(LFDI)	-0.124	-1.483	0.153	LFDI	-0.324	-1.912	0.068
D(LGCE)	0.055	0.368	0.717	LGCE	0.103	0.263	0.795
D(LNRR)	0.740	3.151	0.005	LNRR	0.813	2.414	0.024
D(LTRD)	-0.491	-2.752	0.012	LTRD	-0.720	-2.081	0.049
ECM(-1)	-0.785	-4.498	0.000				
R-squared			0.752	R-squared			0.861
Adj R-squared			0.634	Adj R-squared			0.807
F-statistic			6.380 (0.000)	F-statistic			15.864 (0.000)
Durbin-Watson (DW) stat			1.633	Durbin-Watson(DW) stat			1.854

Private credit (CPS) carried a positive sign and is significant at 5% level, indicating that increases in the credit to the private sector lead to higher unemployment in Nigeria. The result may be counter-intuitive, but the finding may be inferred from the negative relationship between financial development and economic growth found in some studies, such as Ram, (1999); De Gregorio and Guidotti, (1995). Most credits by formal financial system are mainly offered to large multinationals in trading and servicing often with foreign affiliations, and such firms engage in massive profit repatriation to host countries. In turn, less credit is usually supplied to core productive sectors, like agriculture and other small and medium scale firms, often referred to as engine for growth, and with known beneficial value chains. The coefficient representing growth in natural resource rent (NRR) was positive and significant at 1% test level, indicating that increases in NRR raises unemployment. This result reinforces the resource curse argu-

ment, even so resource wealth has been found to cause of economic stagnation, corruption, and civil war. Similar result can be implied from studies by Sachs and Warner, (1995); Sala-i-Martin and Subramanian, (2003); Oyefusi, (2007); and Mehrara and Rezaza, (2011). The real GDP showed a negative and not significant impact in the ECM, but significant at 5% in the OLS estimation, thus confirming the theoretical Okun's law.

As expected, the coefficient of FDI was negative, which accentuate the spillover benefit of FDI on economic growth, as it creates job opportunities see also Chang (2007). Inflation negatively relates with unemployment rate, though not significant at the conventional tests levels, but provides evidence of the existence of the Phillip's short-run relation. Manufacturing capacity utilization was seen to aggravate unemployment rate. The result shows that increases in manufacturing sector's capacity usage intensity worsens unemployment trajectory, thus indicating that Nigeria's unemployment may be due to factor of production choice. Such that, adopting capital-intensive strategy, amidst surplus labour will culminate in higher levels of unemployment. Government capital expenditure (GCE) worsens unemployment situation, providing evidence of rent-seeking behaviours. With evident abuse of office via corruption, public officers tend to accumulate political capital, rather than socially productive ones, thereby eroding the benefits and potency of poverty reduction strategies. Result is similar to conclusions by Mauro (1998), Fosu, Bates and Hoeffler, (2006), Kimenyi (2007) and Ogbeide and Mustapha, (2013). The coefficient of exchange rate (EXR) was found to be negative since the Naira's depreciation discourages imports, but encourages local production, thus can potentially reduce unemployment. More so, the coefficient of trade openness was also negative; suggesting that openness of a country to trade can have an effect on economic activities through diffusion of technology into the domestic economy.

4.3 Stability Analysis

The study examined the stability of the parameters in the short-run unemployment model using the plots of the CUSUM and CUSUMSq. The results of the two tests are provided below. Basically, the existence of parameter instability is established if the CUSUM and CUSUMSq of residuals go outside the bands represented by the two (dotted) lines at 5% critical level. While the CUSUM test is suitable for detecting systematic changes in the regression coefficients, the CUSUMSq is utilized in situations where the departure from the constancy of the regression coefficients is haphazard and sudden (Adebiyi, 2004). From the graphs presented, only CUSUMSq, shows stability of parameter throughout the study period. CUSUM, however, witnessed a systematic divergence in 1998, which the Chow Breakpoint Test further emphasized, and conclude the model is not stable since the null hypothesis is rejected. The Chow Breakpoint is reported in Table 8.

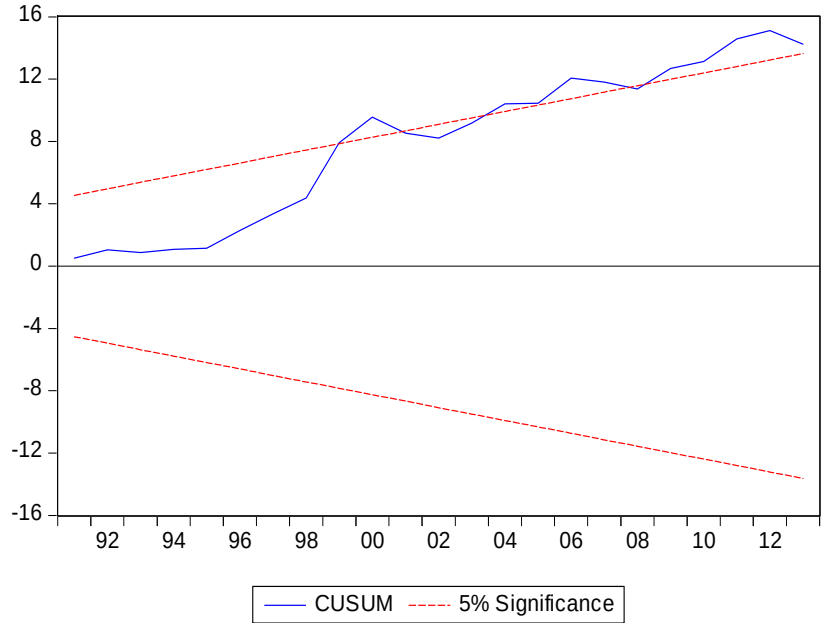
Table 8. Chow Breakpoint Test

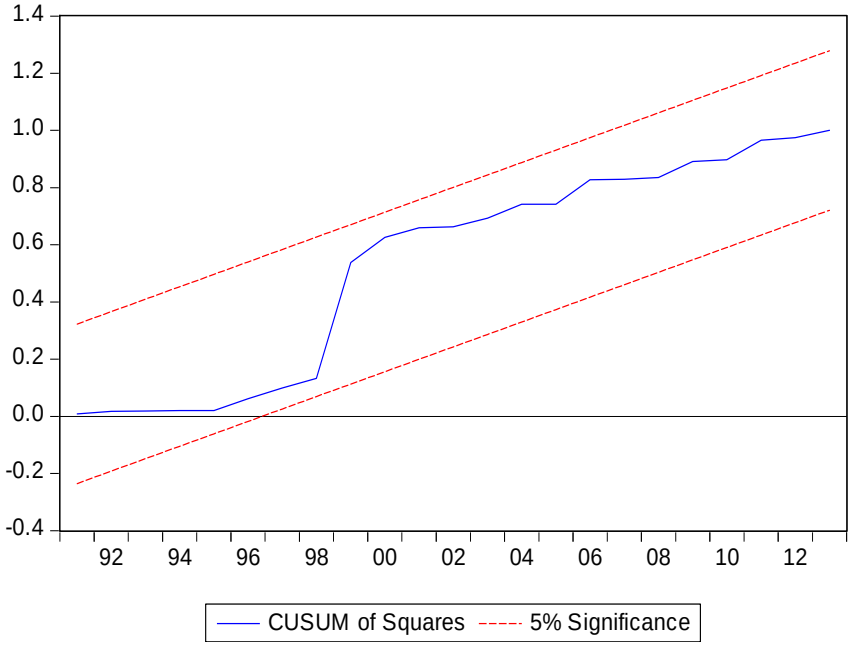
Chow Breakpoint Test: 1998
Null Hypothesis: No breaks at specified breakpoints

Equation Sample: 1981 2013

F-statistic	8.877539	Prob. F(10,13)	0.0003
Log likelihood ratio	67.90802	Prob. Chi-Square(10)	0.0000

Figure 2. Stability Test Using CUSUM and CUSUM Sq of Residuals





5. CONCLUSION AND POLICY RECOMMENDATIONS

The empirically discussion in this paper reveals far-reaching findings regarding the socio-economic factors that results in labour unemployment in Nigeria. The study employed both the error-correction modeling (ECM) and ordinary least squares (OLS) techniques. Comparatively, the results from the ECM model (short run analysis) are robust to results obtained using the OLS (long-run) technique. The coefficients representing GDP and FDI, though not significant in the ECM model, were both significant in the OLS model at 1% and 10%, respectively, but both follow the Okun's relation. Inflation had mixed performance in both models. The coefficient was

positive in the OLS model and negative in the ECM framework, suggesting the importance of good macroeconomic policy environment. Government capital expenditure was found to aggravate unemployment rate in Nigeria, though not significant in both the short-run and long-run model specifications, suggesting the unproductive nature of such spending.

The study has been able to identify empirically the factors that curtail, as well as, propagate unemployment in Nigeria. Output size (measured by GDP), foreign direct investment, exchange rate depreciation, and trade openness were found to curb unemployment, while factors that worsen labour unemployment in the country include financial development (measured by private credit), intensive capacity utilisation, and natural resource rent. Government capital expenditure, though not significant, increases unemployment rate in the country, due perhaps to weak institutional quality. Hence, to enhance public expenditure management, therefore, economic planners should implement efficient ways of understanding the impact and response lag of macroeconomic variables to public expenditure to minimize the waste in public resources. The low private credit/GDP ratio to the core of the economy has dire implication for real sector growth and employment in the country.

To this ends, this study recommends that government should consciously adopt economic framework in line with the unique structure of the economy, with particular emphasis on domestic production that relies on internal sourcing of raw materials in sectors with linkage effects. Also, policy makers in Nigeria should promote lending to sectors with potentially beneficial value-chains, such as agriculture to boost labour force participation and employment. This presupposes the need for effective monitoring/supervision of the interactions between financial institutions and macroeconomic policies to further improve resource-use efficiency. Thus, improving access to more diversified financial services/products induced by policies of financial reform would support inclusive growth, as well as stimulate higher levels of productive activities. Institutional arrangement should also be strengthened, including the need to ensure that natural resource wealth is used to generate other forms of capital, like human capital, physical capital, and financial capital, to engender upward spiraling economic growth equilibria in Nigeria.

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