# EMPLOYMENT AND UNEMPLOYMENT EFFECTS OF GOVERNANCE AND REGULATORY FRAMEWORK IN NIGERIA*

***Preliminary Draft***

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# Employment and Unemployment Effects of Governance and Regulatory Framework in Nigeria

***Abstract***

This study investigates the impact of governance and regulatory framework on employment, at aggregate and sectoral levels, and unemployment in Nigeria. Kaitz-type index of minimum wage is constructed to measure the effect of minimum wage, union density is used to capture the effect of unionism, and composite governance index for the country is constructed using simple average of the six key indicators of governance.

Empirical analyses involved the use of auto regressive distributed lags (ARDL) method given the time series property nature of variables, using annual data covering 1980 to 2015. Results show that while minimum wage has reducing effect on aggregate and industrial sector employment, its effect on public sector employment is positive. Union density and governance have differing effects on employment across aggregate and sectoral levels. Minimum wage has an insignificant negative effect on unemployment, while the impact of union density and governance on unemployment is positive. The need for strengthening the prevailing governance and regulatory framework in the country is suggested.

Key words: Employment, unemployment, governance, minimum wage, unionism

JEL codes: J20, J30, J51, J60

## 1. Introduction

Structural transformations across the globe in terms of changing structure of organization of work and production brought about by globalization and innovation in communication and information technology (ICT) have impacted world of work tremendously in terms of quantity and quality of work (Dolphin, 2015; ILO, 2015). The effects of the processes of transformation on jobs are further compounded by global economic instability. The global economy has been passing through different phases, going through a negative shocks occasioned by the financial crisis of 2008 and early 2009 to a mild recovery and the recent rescind to recession since 2014 due to sharp drop in world price of crude oil. Notable effects of the uncertainty and instability in the global economy

are declining output and productivity, income loss, falling employment and rising unemployment, widening inequality gap, and worsening poverty. While labour markets in developed and advanced economies are not spared from the impacts of the global structural transformation and economic crises, the developing economies have been more affected.

The Nigerian labour market has had its fair share of the impact of different processes of change in the world; the quantity and quality of work have been affected and workers' welfare has suffered set back. Like in many other developing countries, government has responded to these changes through different measures, programmes and policies; however, all these have yielded little results as unemployment and under employment are still high. For example, urban and rural unemployment rates for the first quarter of 2016 stood at 15.0 and 10.8 percent respectively, while underemployment rates for the same period are 9.5 and 23.5 percent. In Nigeria, one of the major reasons for the ineffectiveness of government policies at mitigating the labour market effect of structural changes has been adduced to weakness of institutions and governance process (Folawewo, 2016). While, the processes of transformation cannot be stopped, their negative effect can be minimized, and potential benefits therein optimized through appropriate governance framework. As noted by ILO (2011), the relationship between work and society can be made beneficial, decent work can be secured for all, and technology innovation and globalization can lead to better world of work through effective legislation and strengthening of labour market institutions and governance.

While the literature is awash with studies on effects of several forms of labour markets institutional and regulatory measures on different labour market outcomes such as employment, unemployment, wages and productivity (e.g., see Blanchard and Wolfers, 2000; Belot and Van Ours, 2004; Micco and Pagés-Serra, 2006; Freeman, 2007; Arpaia and Mourre, 2009; Vandenberg, 2010; Nataraj et al, 2012; Betcherman, 2013 Tvrdon, 2013; Henrekson, 2014; Folawewo, 2016), only few have considered the implications of quality of labour market institutions and governance process. In addition, the bulk of existing studies on governance and labour market outcomes has been pure narrative, with little or no quantitative analysis (e.g., see Unni and Scaria, 2009; ILO, 2011; Sale, 2012). Apart from examination of the effects of common form labour market institutional and regulatory framework in Nigeria, that is minimum wage legislation and unionism on labour market outcomes, the present study also evaluates the impact of institutional quality using governance index on employment and unemployment. That is, the study investigates the

impact of institutional and regulatory framework, as well as quality of governance on employment, at aggregate and sectoral level, and unemployment. The present study therefore represents a major departure from the usual practice in the literature.

The paper is organized into six sections. Following the introductory section, is section 2 which provides an overview of institutional and governance framework of Nigerian labour market. In section 3 a brief review of the literature is made. Section 4 presents and describes the methodology and data for the study. Presentation of empirical results and discussion of their implication are contained in section 5. Finally, section 6 provides concluding remarks.

## 2. Overview of Institutional and Governance Framework of Nigerian Labour Market

Nigeria is a member of the International Labour Organisation (ILO) and has also ratified several of the Organisation's conventions and treaties. As a signatory to ILO treaties, the institutional and regulatory frameworks existing in the country are therefore in line with ILO and fall within international standards (Okoronkwo, 2008); though their functioning is often below the acceptable world standards. The formation of regulations and establishment of institutions saddled with implementation of regulations are usually done through legislative processes. Hence, laws governing labour relations have either emerged through decrees in the case of military regimes or through Act of parliaments in case of democratic era.

The governance of labour matters in Nigeria follows a tripartite framework involving government – Ministry of Labour and Productivity (MoLP) and allied agencies, employers' represented by Nigeria's Employers Consultative Association (NECA) and workers represented by their umbrella unions – Nigeria Labour Congress (NLC) and Trade Union Congress (TUC). There are existing different acts of legislation governing labour market activities; Labour Act (Decree) No. 21 of 1974 and its subsequent amendments such as Labour Act 1990 and Labour Act 2004. These are complemented by many International Labour Standards that Nigeria has ratified and domesticated[1]. Similarly, the Trade Unions Act (Cap. T14 L.F.N 2004) provides guidelines for formation of trade unions which are usually in existence for advocacy of workers' rights and welfare. Another form of regulation guiding interactions among players within the Nigeria labour

[1] See International Trade Union Confederation (ITUC), Internationally Recognised Core Labour Standards in Nigeria: Report for the WTO General Council Review if the Trade Policies of Nigeria, (Geneva, 28 and 30 June, 2011), for a comprehensive review of International Labour Standards ratified by Nigeria.

market is the Trade Dispute Act 2004 (Cap. T8 L.F.N). This Act sets up modalities for settling and resolving conflicts that may arise between employers and employees.

A major feature of the Nigerian labour market is the application of Minimum Wage (MW) legislation as a means of protecting low income groups of worker and giving access to some basic standards of living through specification of least basic salaries that different categories of workers should be entitled to. Several MW laws have been implemented in the country over the past years, the latest being the National Minimum Wage (Amendment) Act 2011[2]. It is worthy to note that any time a MW agreement is reached and MW Act becomes operational, its implementation usually causes hiccups. Since MWs are set by the Central (Federal) government, State government (which is the second tier of government) more often finds it difficult to implement due to affordability problem (Okafor and Aniche, 2015). In the same vein, many employers within the private sector also do not adhere to the MW laws. As a matter of fact, insistence on implementation of MW by unions has always brought about industrial disputes such as strikes; while employers (both within public and private sectors) usually threat workers with firing, some of such threats have been carried out resulting in several job losses (Akume and Abdullah, 2013 ).

Rules and regulations emanating from the various Acts and legislations governing the operations within the labour market are usually poorly implemented and most often ineffective. Such regulations partly cover the entire market with the large informal segment being uncovered. In the covered segment, regulations are only effective to a limited extent, in terms of compliance, in the public sector; whereas, in the private sector the compliance level is low, due to poor monitoring and implementation (Folawewo, 2016). Aside the inefficacy of existing laws and regulations, majority of them are obsolete and they are unable to deal with the prevailing dynamics in both the local and international labour markets. This situation informed the collaboration among MoLP, ILO and social partners in 2005 to review and condensed the various extant laws into new five bills. The new bills are: a) Employees Compensation Bill; b) Labour Institution Bill; c) Collective Labour Relations Bill; d) Occupational Safety and Health Bill; and Labour Standards Bill. These draft bills took into consideration the international labour standards and consequently, they were aligned with the relevant labour standards especially the standards ratified by the Nigerian government. However, given the slow pace in the legislative process in country, only one (1) out of the five bills has been enacted into law and that is the Employees' Compensation Act,

[2] See Folawewo (2009) for a comprehensive review of the various minimum wage legislations Nigeria.

while the other four bills are still with the National Assembly, even though they are due for review again.

The weakness in the governance and regulatory framework in the country has given room to lack of adherence to employment and compensation laws among employers across sectors in the market. Workers are therefore subject to exploitation, casualization, lack of adequate protection and job insecurity. The overall effects of which have been lack of decent jobs, motivation for improved productivity among workers and widening of inequality gap.

## 3. Literature Review

As noted earlier, there is a dearth of literature on the effect governance quality on labour market outcomes, while a majority of studies have focused on institutional and regulatory issues. Some studies, such as Sanchez-Puerta (2010) presented review of literature under several labour market institutions[3]. For brevity, this study makes a general presentation of the literature concentrating on theoretical and empirical reviews. The theoretical stance on the impact of institutions and regulatory framework on labour market outcomes in the literature are of two major approaches: the mainstream or traditional approach and a more recent one called the socio-economic approach[4]. The two approaches disagree in almost all of their contributions to literature. Basically, the distinction between the two approaches, which is not the subject matter of this review anyway, is more in the methodology adopted in arriving at their conclusions. The former adopts a mechanical analysis of the labour market, where analytical, more quantitative and advanced econometric techniques are employed (see Fleetwood, 2008). The latter adopts more trans-disciplinary insights in the form of ideas, concepts, theories, and empirical data among others in explaining the nature of the labour market.

The mainstream philosophy rests on the belief that there is a relationship between wage rates and the demand and supply of labour (Blanchard and Wolfers, 2000; Besley and Burgess,

[3] Sanchez-Puerta (2010) presented her review of literature under four sub-headings: (i) Effects of employment protection legislation on labour market outcomes, (ii) Shifting from job to worker protection, (iii) Effects of active labour market policies on labour market outcomes, and (iv) Causes and consequences of formality and informality in the labour market.

[4] Fleetwood (2008) called this approach 'a socio-economic approach'. He stated that it consists in the work of heterodox economists such as economic-sociologists, evolutionary economists, feminists, (Old) Institutionalists, Marxists, post-Keynesians, regulationists, and segmented labour market theorists, as well as those who would not describe themselves as 'economists', yet who write on labour markets, coming from disciplines like: industrial or employment relations, labour law, human resource management, education research, organisational and management theory, sociology of work and employment, state theory, urban geography and so on.

2004). Thus, as wage rate increases, demand for labour falls and supply of labour increases. Given this simple analysis, this school of thought advocated a more flexible and efficient labour markets by removing institutions that distorts the forces of demand and supply. By the proponents of labour market flexibility (Blank and Freeman, 1994; Burki and Perry, 1997; Blanchard and Wolfers, 2000; Forteza and Rama, 2002; Besley and Burgess, 2004), any distortion of market mechanism will impede growth and employment for the following reasons: First, most institutional interventions create incentives for market participants to behave differently than they otherwise would. This prevents wages to equal marginal product in equilibrium, thus, making misallocation of resources inevitable. Second, regulations such as minimum wage make adjustment of labour markets to different types of economic changes in a dynamic setting difficult. Finally, regulations that redistribute economic 'rents' from capital to labour (for instance, collective bargaining schemes, and expansionary fiscal programs to fund public employment and so on.) reduce investors' profits. This consequently discourages investment and the prospects of economic growth (Calderon and Chong, 2003).

However, the so called socio-economic approach constitutes widespread contributions of many writers, who see labour market differently from the mainstream economists. Proponents of this idea observed that labour market only exists because different sets of agents interact with different sets of social, economic, cultural, political, ideological and social-psychological phenomena, in different spatio-temporal locations (Fleetwood, 2008). Thus, they argued that these phenomena are crucial to the analysis of labour markets. Given the above, they incorporated institutions and regulatory frameworks (IRF) as important determinants of the dynamics in the labour market. The main arguments of this body of knowledge are that IRF can fulfil important redistributive roles particularly to benefit the vulnerable categories of workers; in addition, provisions such as labour standards may create desirable pressures on the employers to focus on the enhancement of their labour productivity whether it is through training or technical innovations (Freeman 1993); ultimately, standards on mandated benefits may help to solve the moral hazard issues and all the workers will benefit (Summers, 1998).

According to Akerlof (1984), by reinforcing job security, employment protection legislation (EPL) may enhance productivity performance, as workers will be more willing to cooperate with employers in the development of the production process. By this, EPL can be expected to reduce labour turnover. Thus, unemployment or employment duration is expected to

be positively correlated with the degree of employment protection. Because EPL ensures long-term labour contract, it creates an incentives for employer to invest in the training and well-being of workers, thus, increase human capital and labour productivity. However, there are contrasting arguments in the literature as regards the benefits of EPL. When regulations are very strict, Bertola (1992) opined that firms may become more cautious in adjusting their workforce with the ultimate effect of reducing labour turnover. If the degree of strictness focuses on permanent contract than temporary contract, employers are likely to shift attention to temporary recruitment. Thus, as argued by Bentolila and Dolado (1994), those who are able to maintain a permanent contract will enjoy an even higher level of job security, bringing about an increase in wage pressure. Also, in a case where hiring and firing costs cannot be transferred into lower wages, this increases total cost of labour and leads to a reduction in recruitment.

Several empirical studies have been carried out to investigate the link between institutional regulations and labour market outcomes in relation to the two theoretical stands. In a study on India, Besley and Burgess (2004) found that pro-worker regulations are associated with low investment, employment, productivity, output and high urban poverty. The study further revealed that this type of regulation facilitated the existence and growth of a very large informal sector. The findings of the study have been criticised on several grounds, for example, Bhattarcharjea (2006) opined that the use of state-level labour regulation might be inappropriate. In addition, it was argued that scoring of several individual measures was erroneous, and that combination of scores as in Besley and Burgess was not comparable across states.

Petrin and Sivadasan (2006) studied the effect of EPL on Chilean manufacturing firms for the periods 1979-1996 using plant-level production data. Results of the study showed little evidence of a negative impact of EPL on labour demand; however, it found that EPL introduced economically and statistically significant costs to the economy. They argued that firing costs drove a wedge between the marginal revenue product and its marginal cost. The result showed a large and significant increase in both the mean and the variance of the within-firm gap between the marginal product of labour and wage, for both white and blue collar workers.

In a comprehensive cross country study Botero et al. (2003) investigated the economic effect of labour market regulations such as employment laws, industrial and collective bargaining laws and social security laws for 85 countries. They found out that richer countries regulate labour less often than the poor ones, instead they provide more social securities. Also, they argued that

heavier regulation of labour is detrimental to labour force participation and generates higher unemployment. This finding was corroborated by Elmeskov et al. (1998). However, the study by Belot and Van Ours (2004) showed that EPL lowered unemployment rate. It was also shown that male participation in the labour force is at disadvantage as there are more protective employment, collective relations, and social security laws that favour females. In another study by Calderon and Chong (2003) for 76 countries, they argued that growth is adversely affected by thicker labour codes. Thus, they opined that growth could be promoted by fewer labour regulations, especially in developing countries.

Using difference-in-differences methodology Micco and Pagés-Serra (2006) argued that EPL reduced job flows, mainly in more volatile sectors. However, they concluded that labour regulations do not robustly affect labour productivity – this result was contradictory to results from a study by Cingano et al. (2010), which found negative impacts of EPL on labour productivity particularly in sector with high rates of labour reallocation. Boeri and Macis (2007), in a panel data analysis for the period 1980-2001, investigated whether unemployment insurance has allowed for more and better structural change to take place. They employed job creation, job destruction, job turnover, and sector reallocation to measure structural change. Their results indicated that introduction of unemployment insurance was associated with higher rates of turnover and labour reallocation across sectors.

It was also observed that among the developing countries, minimum wages and trade unions were the major channels through which higher labour regulations impacted adversely on growth. Griffith et al. (2006) in their own study analyzed the impact of product market competition on unemployment and wages, and how this depends on labour market institutions. They used differential changes in regulations across OECD countries over the 1980s and 1990s to identify the effects of competition. Thus, they argued that increased product market competition reduces unemployment, and that it does so more in countries with labour market institutions that increase worker bargaining power. The theoretical intuition is that both firms with market power and unions with bargaining power are constrained in their behaviour by the elasticity of demand in the product market. They further argued that increased competition on real wages could be beneficial to workers, but less when they have high bargaining power. Intuitively, real wages increased through a drop in the general price level, but workers with bargaining power lose out somewhat from a reduction in the rents that they had previously captured.

Blanchard and Wolfers (2000) investigated the joint effect of macroeconomic shocks and protective labour market in European countries and found that in the presence of adverse shocks, protective labour market institutions contributed to higher unemployment; the result which was consistent with that of Fitoussi et al. (2000). In a similar study, Nickell et al. (2001) in their study of OECD from 1961-1995 argued that changes in labour market institutions explain around 55 percent of the increase in European unemployment from the 1960s to the first half of 1990s. In a study which examined the effects of institutions and regulations on unemployment in OECD, Baccaro and Rei (2007) failed to find any strong evidence of either direct or indirect effect of labour market institution on unemployment. It however found evidence of robust positive effect of union density on unemployment. Schindler (2009) opined that both the structure and sequencing of labour market reforms are important for labour market outcomes and the associated costs of reforms. In another study on European Union (EU) countries, Tvrdon (2013) found two main institutional factors significantly influencing labour market performance and these are tax wedge on labour activities and active labour market polices. It shows that higher tax has positive correlation with unemployment, but active labour market polices have the tendency to offset the negative effect of high taxation.

In conclusion, evidenced from both the theoretical and empirical review, it is clear that the literature is inconclusive on the impact of institutions and regulatory framework on labour market outcomes. Most of the studies pay more attention to employment effect but less on productivity and wage or income effect. In addition, very few studies to the knowledge of the writer focus on Africa. In particular, it is difficult to identify a rigorous empirical study on Nigeria. Therefore, this study is an attempt at filling this noticeable gap.

## 4. Empirical Model and Data

In order to analyse the effect of quality of governance on labour market outcomes, we adopt commonly used model for investigating institutional and regulatory impact. Consequently, the model developed by Baccaro and Rei (2007) which is a modification of Nickell et al (2001), IMF (2003) and Nickell et al (2005) is augmented with governance variables. Thus, the employment model is written as

$$EMP_{i_t} = \alpha_0 + \sum_k \beta_k X_{k,it} + \sum_j \gamma_j G_{jt} + + \sum_n \varphi_n Z_{n,it} + \varepsilon_t, \qquad i = 1,...,3 \tag{1}$$

where *EMP* denotes employment, *X* is a vector of regulatory variables, *G* is vector of governance indictors, *Z* is vector of macroeconomic variables used as control, and $\varepsilon$ is the random error term that captures unobservable factors that may influence employment. The subscript *t* is time period, $\alpha$, $\beta$, $\gamma$ and $\varphi$ are parameters to be estimated, and *j*, *k* and *n* connote observable numbers of variables in each of the vectors. The impact of governance and regulatory framework on employment is analysed at two levels. First, the impact is examined at aggregate employment level, that is, on total formal sector employment, and secondly on public sector and industrial sector employment. The disaggregated analysis is crucial for a country such as Nigeria where the reaction of public and private sectors employers to institutional and regulatory changes varies significantly. As a means of capturing the dynamics in employment, equation (1) is re-specified as:

$$EMP_{i_t} = \alpha_0 + \alpha_1 EMP_{it-1} + \sum_k \beta_k X_{k,it} + \sum_j \gamma_j G_{jt} + + \sum_n \varphi_n Z_{n,it} + \varepsilon_t, \; i = 1,...,3 \tag{2}$$

Another major labour market outcome whose behavior is influenced by the nature of prevailing governance and regulatory framework is unemployment. The employment equation is modified to form that of unemployment. Thus, in somewhat akin to that of employment, the unemployment equation is given as:

$$UNEMP_t = \alpha_0 + \alpha_1 UNEMP_{t-1} + \sum_j \beta_j X_{jt} + \sum_k \gamma_k G_{kt} + + \sum_n \varphi_n Z_{nt} + \varepsilon_t \tag{3}$$

where *UNEMP* denotes unemployment rate and all other variables are as earlier defined. Unlike the employment equation, the unemployment equation is estimated for the aggregate unemployment rate in the economy.

The variables of the model are measures in different ways. Two variables, Union Density (*UD*) and Minimum Wage Index (*MWI*) are used as institutional and regulatory variables. The *UD* variable is measured as proportion of union membership (total registered members of Nigerian Labour Congress (NLC) and Trade Union Congress (TUC)) to the total workforce (see Hayter and Stoevska, 2011); and it is used as a measure of the degree to which employees are organized. Given the active nature of unionism in Nigeria, *UD* is meant to capture the impact of labour union on employment and unemployment. The variable is constructed for the aggregate union density in the

economy (*AVUD*), in the industrial sector ($UD_{IND}$) and in the public sector ($UD_{PUB}$). The effect of the variable on employment and unemployment can either be positive or negative depending on several factors, such as the reaction of employers across sectors (see Freeman and Medoff, 1984). The kaitz-type index of minimum wage legislation is used as *MW* index. The index is measured as ratio of the minimum wage to average wage. This is measured at aggregate and sectoral levels, in which case for aggregate model the index is constructed as ratio of *MW* to average economy-wide wage, and for sectoral level, it is the ratio of *MW* to average sectoral wage. Thus, the variable is is constructed in similar fashion with that of MWI, that is, there are economy-wide index (*AVMWI*), industrial minimum wage index ($MWI_{IND}$) and public sector index ($MWI_{PUB}$). The index is expected to be negatively related to employment and positive with unemployment (Burkhauser et al, 2000). Macroeconomic variables included in the model are inflation, real interest rate, and labour productivity growth.

The governance quality variables are measured by using the six dimensions of institutional quality of Political Risk Services, International Country Risk Guide (PRS). The six indicators are voice and accountability, political stability and absence of violence, government effectiveness, regulatory quality, rule of law, and control of corruption. The six aggregate indicators capture the political, economic, and institutional dimensions of governance. The value for each indicator ranges from 0 to 1. The composite governance index for the country is constructed using a simple average of the values of the six indicators.

The measurement of all other variables is straightforward except for productivity growth which is measured in lagged as percentage change in productivity (proxied by GDP)[5]. Trade openness, measured as ratio of total trade (exports plus imports) to GDP, captures employment effect of trade. Real interest is used to track the impact of cost of capital on investment, production and employment. Each of these variables works through different channels to affect employment and unemployment (see e.g., Nickell, 1997; Marquez and Pagés-Serra, 1998; Bertola et al, 2001; Belot and Van Ours, 2004; Nickell et al, 2005; Baccaro and Rei, 2007).

In all, the empirical model is estimated using static and dynamic analytical methods involving autogressive distributed lags (ARDL) cointegration estimation techniques as a means of investigating short-and long-run effects of governance and regulatory measures on employment and unemployment. Annual data covering 1980 to 2015 is used. While the data for other variables

[5] Both the *UD* and *MW* index are calculated for aggregate and sectoral levels.

of the study is sourced from various issues of the National Bureau of Statistics (NBS) annual abstract of statistics and the Central Bank of Nigeria (CBN) statistical bulletin, the governance indicators are obtained from Political Risk Services, International Country Risk Guide (PRS).

## 5. Empirical Results

### 5.1 Unit Root Test Results

Since most macroeconomic data, especially that of labour market in majority of developing countries are very unreliable and characterised with noise (Fields, 2007), in this section, unit root test is performed on the variables of the empirical model. Time series properties test is carried out to examine the nature of trend, particularly stochastic trend of the data series. The ARDL bounds test assumes that the variables of interest are either I (0) or I (1). Therefore, unit root test is important before applying the ARDL bound test in order to determine the order of integration of all the variables of interest.

Two different tests are used: the traditional augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests. The results of the ADF and PP tests (Table 1) show that while some of the variables are integrated of order one, I (1) and non-stationary at their actual level, others are stationary at their original level, that is, I (0). An important result is that of aggregate governance index (*AVGI*) is stationary at level, that is, it has the tendency of easy convergence to its equilibrium value. Since the variables are either I (0) or I (1) and there is absence of I (2) variable, this thus validates the appropriateness of application of ARDL model in the empirical analysis.

### 5.2 Employment Regression Results

This subsection discusses the results from regression of the different employment models. Precisely, in this study, total employment is decomposed into sectoral employment, that is, private employment and public sector employment, with the former captured by industrial employment. Consequently, the employment analysis is done at aggregate (economy-wide) employment level, as well as for industrial and public sector employment.

#### 5.2.1 Aggregate Employment

To check the long-run relationship among the variables, bound testing approach for cointegration analysis is applied. The choice of ARDL cointegration approach, developed by Pesaran and Shin

(1999) and Pesaran et al. (2001), is based on three main reasons. Firstly, in ARDL, all the variables under study need not be integrated of the same order and the model can be applied when the underlying variables are integrated of order one, order zero or fractionally integrated. Secondly, the approach helps in obtaining unbiased estimates of the long-run model (Harria and Sollos, 2003). Lastly, ARDL test is relatively more efficient in the case of small and finite sample data sizes (Belloumi, 2014).

The bounds test is mainly based on the joint F-statistic whose asymptotic distribution is non-standard under the null hypothesis of no integration. The null hypothesis of no cointegration is rejected when the value of the test statistic exceeds the upper critical bounds value, while it is not rejected if the F-statistic is lower than the lower bounds value. Otherwise, the cointegration test is inconclusive. The bound test for cointegrating relationship in Table 2 clearly indicates that the calculated values of F-stat for the models are greater than the upper bound values ($F_u$) of 4.43, 3.61 and 3.23 at 1%, 5% and 10% significance levels, respectively. This implies that the null hypothesis of no cointegration among the variables is rejected. This then validates the existence of long run relationship between the growth rate of total employment in the economy and its regressors.

In order to investigate the stability of the ARDL procedure, this study applies the CUSUM test developed by Brown et al. (1975).The test is based on the cumulative sum of recursive residuals based on the first set of *n*-observations. If the plot of CUSUM statistic stays within 5% significance level, then estimated coefficients are said to be stable. A graphical presentation of this test is presented in figure 1. It can be seen that the CUSUM line obviously lies between the critical bound of 5% significance level over time. Thus, the output of CUSUM test shows that the model is stable.

The dynamic results of the error correction model are reported in Table 3. The coefficient of the lagged error correction term is significant at the 1% level with the expected negative sign, which confirms the result of the bounds test for cointegration. The higher coefficient of ECM indicates fast adjustment process to equilibrium. The result indicates that about 121% of disequilibria from the previous year's employment growth converge back to the long-run equilibrium in the current year.

From the result of the long-run ARDL cointegration model (Table 3), it is shown that minimum wage index and union density have insignificant negative effect on total employment. The implication of this is that a rise in minimum wage and labour union activities has the tendency of reducing total employment in the economy. The relationship between minimum wage and aggregate employment can be adduced to the fact that an increase in wage without a corresponding rise in productivity raises production cost and ultimately causes reduction on labour employment in the economy as a whole. Similarly, a rise in union membership strengthens union activities and may have negative effect on employment.

The result further shows that total employment effect of governance in the country is negative, which implies that the prevailing weak governance level has been exerting inverse effect on job creation[6]. The weak governance process is reflected in poor regulatory quality, poor control of corruption and inefficiency of government among others. Thus, the negative relationship between total employment and governance is a reflection of the adverse effect of the weak governance process on overall employment in the country's labour market.

The result also shows that the coefficient of real GDP is negatively signed and significant at 5% level. This finding shows that higher employment growth in Nigeria has not been associated with her higher economic growth during the period under study. This further corroborates Ajakaiye et al (2016) that growth in Nigeria is a jobless growth, that is, economic growth is not followed by a satisfactory job creation. Given this negative impact on employment growth, there may be need for policy makers to pursue inclusive growth that will necessarily transform to significant job creation.

In terms of the effects of other macroeconomic factors, real interest rate and trade openness both have negative impact on economy-wide employment, though the effect is not significant. This results shows that a rise in interest rate raises cost of capital and has adverse effect on investment, production and employment. The relationship between trade openness and total employment is a reflection of the overwhelming effect excess effect of imports over exports, which affects domestic production activities and employment.

[6] Average (composite) governance index is used for empirical analysis, this is because attempts at using each of the six disaggregated indices (dimensions) of governance (failed to yield meaningful results.

### 5.2.2 Industrial Employment

From the industrial employment regression result in Table 3, it is shown that the industrial employment growth effect of industrial minimum wage index is significantly negative. Although in Nigeria, average industrial sector wage is often higher than the government set minimum wage, the minimum wage serves as benchmark for wages across sectors, and hence an increase in minimum wage has the potential of raising average wage in the industrial sector, and leading to reduction in employment. This also corroborates the findings of Burkhauser, et al. (2000). However, it has been argued that the negative effect is on job growth rather than on increase in job destruction due to establishment contraction (Meer and West, 2013). Thus, the effect is on the additional job to be created and not on the existing job.

Union density has a positive and significant effect on the growth rate of employment in the industrial sector. As mentioned earlier, the impact of unionism on employment is quite ambiguous theoretically. However, if bargaining occurs over both compensation and employment levels, then employers can be bound by unions to efficient contracts that raises labour compensation without reducing employment (McDonald and Solow, 1981). In addition, unionism is relatively weak in the industrial sector in Nigeria, consequently an increase in the number of workers joining union may not necessarily lead to reduction in employment in the sector.

There is positive and significant relationship between the governance index and growth rate of employment in the sector. However, this could be in form of reducing the rate of sacking of workers rather than increasing employment rate. This also establishes that given the impact of the existing weak governance framework, a stronger level of governance has the potential of having a greater positive effect on industrial sector employment. That is, good governance process may reduce or totally remove the current practice of casualization and contract precarious form of contract employment prevailing in the private sector and thereby lead to improvement in working condition and sustainable job creation (ILO, 2015).

Other macroeconomic variables also exert significant effect on industrial employment. For instance, real GDP and trade openness have positive impact while real interest rate exerts negative effect. The result which demonstrates that a rise in productivity will foster employment generation in the private sector. In the same vein, since industrial activities in the country rely mostly on imported raw materials, increased trade openness will facility employment in the industrial sector.

### 5.2.3 Public Employment

The result of the public sector employment regression is similar to that of industrial employment with exception of few differences. First, the result indicates that minimum wage has insignificant positive relationship with employment in the sector. This result is not unexpected since it is government that usually sets the minimum wage based on agitations from unions, and in most cases when such wage is set even though government may threaten with firing of workers, such threat is not usually carried out especially at federal government level, expect for rare cases at state government level. Also, since government (public sector) employment is not driven by profit maximisation objective, increase in wage has not been matched with employment reduction, rather it has always led to rise in public sector's recurrent expenditure. Similarly, union density has positive but non-significant effect on employment in the public sector, which indicates that increasing unionism among public sector workers does not affect employment generation in the sector. Public sector employment effect of governance is positive but insignificant. This further strengthen the argument that good governance has the ability to promote employment not just in the private sector but also in the public sector.

In terms of the effects of different macroeconomic variables, growth rate of real GDP has significant negative impact on public sector employment, thus, confirming the jobless growth situation in the country. Real interest and trade openness have positive and negative effects, respectively on public employment. It is important to note that the unlike like the case of aggregate and industrial employment, the effect of real interest on public sector employment does not conform to a prior expectation. A plausible explanation for this observed phenomenon may again be because employment in the public sector is not subject to profit optimisation objective.

## 5.3 Unemployment Regression

The unemployment regression results (Table 3) shows that in contrary to a priori expectation, minimum has a negative, but insignificant effect on unemployment in the economy. This implies that overall, a rise in minimum wage does not have the tendency to compound unemployment situation in the country. This can be adduced to the fact that in Nigeria MW legislation is ineffective across sectors. While it only serves as a signaling factor to private sector wage, its compliance in the large inform sector is non-existing. In the public sector where it is effective,

arise in MW does not necessarily lead to job loss especially at federal government level. Thus, a rise in MW may not compound the unemployment situation.

In terms of the impact of union density, this is positive and significant, showing that a rise in labour unionism contributes to rising unemployment. This implies that an increase in union membership and activities can further heighten the unemployment situation. The result is a further confirmation of the effect of union density on aggregate employment. In a similar way, governance also has insignificant positive effect on unemployment. As noted earlier, this reinstates the harmful effect of the prevailing weak governance framework in the country on employment, and subsequently on unemployment.

The effects of other macroeconomic variables used as control are as expected expect for that of real GDP which is positive. This also affirms the jobless growth situation in the country. The impact of real interest rates indicates that increase in real interest rate raises the cost of capital and investment which increases unemployment.

## 6. Conclusion

The on-going global transformation processes occasioned by increasing globalization and improvement in ICT have severely impacted the labour market both in developed and developing countries, especially in terms of quantity and quality of jobs. One major way of mitigating the effects of the transformation processes is strengthening of labour market governance and regulation. Thus, this paper analysed the effects of governance and regulatory framework on employment and unemployment in Nigeria. While the Kaizt–type index of minimum wage legislation and union density are used to capture the effect of regulatory framework, a composite governance index constructed as a simple average of the six basic governance dimensions is used to measure the effect of governance process. Empirical estimation involved the use of ARDL cointegration model, with annual data covering 1980 to 2015.

Result indicated that while minimum wage has reducing effect on aggregate and industrial sector employment, its effect on public sector employment is positive. This showed that while an increase in minimum wage might raise cost and thereby reduce employment in the both the private sector and the entire economy, this may not be the case in the public sector since employment in the sector is not driven by profit maximization objective. Union density has positive impact on economy-wide employment and negative effect on employment in both industrial and public

sectors. This shows the differential impacts of variation in the reactions of employers to labour union activities on the aggregate and sectoral employment. Still on employment, governance has significant negative effect on aggregate employment, indicating that the weak governance framework has adverse effect on economy-wide employment. On the other hand, the effect of governance on sectoral employment is positive, which supports the fact that a strong and good governance process has the potential of boosting employment.

In terms of unemployment effects of governance and regulatory framework, minimum wage has an insignificant negative effect on unemployment, which implies that a continuous rise in minimum wage does not pose any harmful threat to unemployment in the country. The impact of union density on unemployment is positive, which is a reflection of its overwhelming negative effect on aggregate employment. Similarly, governance has positive but non-significant effect, unemployment, indicating the harmful employment effect of the prevailing weak governance framework in the country.

Overall, the policy implication of the results of the study is that the prevailing governance and regulatory framework in the country needs to be strengthened in order to ensure that they have the desired effects on employment and employment.

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**Table 1: Unit Root Test Result**

| Variable | ADF | P-P | Order of stationarity |
|---|---|---|---|
| *GTOTEMP* | -6.124*** | -6.121*** | I(0) |
| *GINDEMP* | -3.738*** | -5.952*** | I(0) |
| *GPUBEMP* | -5.184*** | -5.183*** | I(0) |
| *ΔUNEMP* | -4.389*** | -5.669*** | I(1) |
| *ΔMWIPUB* | -5.729*** | -5.729*** | I(1) |
| *MWIIND* | -4.014*** | -4.047*** | I(0) |
| *ΔAVMWI* | -6.502*** | -6.519*** | I(1) |
| *ΔUDPUB* | -5.066*** | -5.099*** | I(1) |
| *ΔUDIND* | -4.614*** | -4.509*** | I(1) |
| *ΔAVUD* | -5.286*** | -5.273*** | I(1) |
| *AVGI* | -3.047** | -2.979** | I(0) |
| *GRGDP* | -3.877*** | -4.011*** | I(0) |
| *RINTER* | -5.187*** | -5.177*** | I(0) |
| *ΔTOPENES* | -5.093*** | -5.081*** | I(1) |

*Note: The tests performed are the Augmented Dickey-Fuller (ADF) and Phillips-Perron (P-P) test statistic. These test the null hypotheses of a unit root against the alternative that the variables are at stationary process.*

**Table 2: The Bounds test for Cointegrating relationship**

| **F-Statistic Value** | **Level of Significance** | ***Critical Value I0 Bound*** | ***Critical Value I1 Bound*** |
|---|---|---|---|
| 5.708 (Total Employment) | 10% | 2.12 | 3.23 |
| 20.846 (Industrial Employment) | 5% | 2.45 | 3.61 |
| 4.699 (Public sector Employment) | 2.5% | 2.75 | 3.99 |
| 5.028 (Unemployment) | 1% | 3.15 | 4.43 |

**Table 3: The ARDL Cointegration Model**

| Variable | Total Emp. | Industrial Emp. | Public Emp. | Unemployment |
|---|---|---|---|---|
| *CONSTANT* | 32.860 (2.500)** | -334.174 (-4.953)*** | 4.764 (0.185) | -55.942 (-1.684)*** |
| *AVMWI* | -3.259 (-0.267) | | | -17.200(-0.478) |
| $MWI_{IND}$ | | -315.600 (-4.068)** | | |
| $MWI_{PUB}$ | | | 28.758 (1.098) | |
| *AVUD* | -12.297 (-0.770) | | | 86.536 (2.219)** |
| $UD_{IND}$ | | 437.733 (4.532)*** | | |
| $UD_{PUB}$ | | | 13.202 (0.591) | |
| *AVGI* | -53.402 (2.943)*** | 389.510 (3.359)*** | 19.392 (0.411) | 82.798 (1.605) |
| *GRGDP* | -0.339 (-2.161)** | 9.926 (8.871)*** | -1.262 (-2.583)** | 0.307 (0.697) |
| *TOPENES* | -4.332 (-1.614) | 141.871 (6.376)*** | -10.466 (-1.101) | 7.810 (1.551) |
| *RINTER* | -0.030 (-1.614) | -0.938 (-2.149)*** | 0.264 (1.867)* | 0.437 (2.728) |
| *ECT* (*-1*) | -1.219 (-8.264)*** | -1.599 (-17.505)*** | -1.113 (-6.698)** | -0.351 (-3.860)*** |

Notes: *t*-Statistics in parenthesis; *, **, *** indicate 10%, 5% and 1% significance levels

a) The *ECT* (*-1*) is obtained from the short-run ARDL model regression results.

**Figure 1: Plot of CUSUM (Total Employment)**

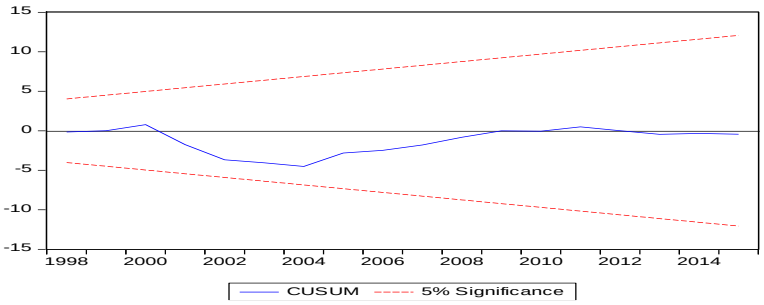


**Figure 2: CUSUM Plot (Industrial Sector Employment)**

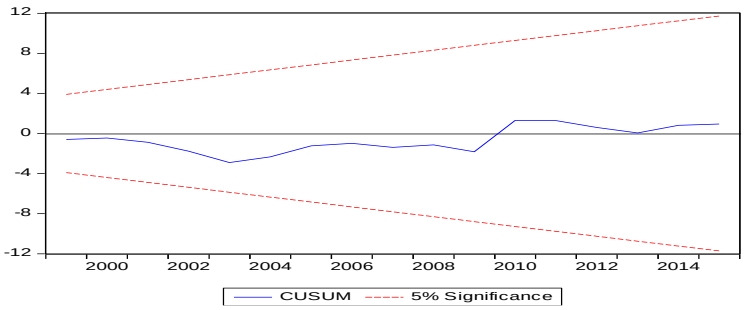


**Figure 3: CUSUM Plot (Public Sector Employment)**

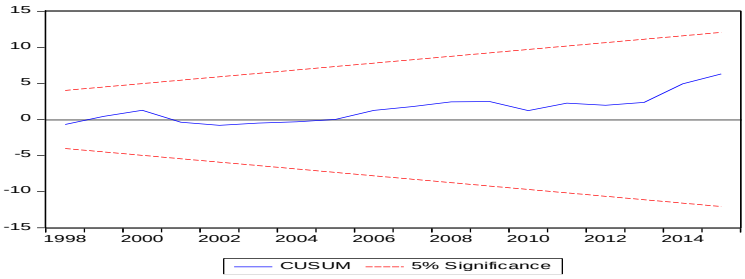


**Figure 4: CUSUM Plot (Unemployment)**