Economic liberalization and job creation in Nigeria

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This study examines the effects of economic liberalization on job creation in Nigeria. Liberalization in the economy is a multidimensional concept that encompasses finance, telecommunication, trade etc. This study narrows globalization to economic liberalization and looks at its effect on job opportunities in Nigeria. Unemployment has been seen as a great problem to global economic development, and in particular, Nigeria's unemployment has been on a spiral increase, which culminated into a reduction in household income and standard of living, thus, increasing the level of poverty. We discovered that openness of the economy and liberalization of custom and excise duties tend to enhance job creation. However, the liberalization of exchange rate and import duties enhance the level of unemployment through high cost of exports.

Thus, the present economic liberalization is not employment enhancing. The implication of this is that there will be productivity loss to the domestic industries due to economic liberalization, thereby, raising unemployment and aggravating the level of poverty in the country. This study, therefore, recommends that the government should undertake regulated/guided liberalization policies such that the dictate of the economy will not be left in the hands of oligopolists.

I.   Introduction

Economic liberalization is a subset of globalization, which is widely acknowledged to be multi-faceted phenomenon. Each facet of globalization is said to have different effects on employment or job creation, which vary by country, time, industry, policies and the like. According to O'Rourke and Williamson (2000), globalization in the general sense of closer integration of national markets is not new. Lall (2002) believed that globalization comes as part of large array of economic, technical, social, legal and policy changes, each with interactions and feedbacks, thus, making it difficult to separate the effects of globalization. Economic liberalization, which is often taken to mean globalization in its narrow or limited sense, is the economic

integration of countries. Bhalotra (2002) takes economic liberalization to mean both macroeconomic stabilization and micro-structural change.

The issue of the effects of economic liberalization on job creation is topical, which demands adequate search and research in order to really show to what extent economic liberalization has been able to promote or hinder job creation. In spite of the importance of this subject, there has been relatively limited study. The reason for this according to Ghose (2000) is because it is surprisingly difficult to define and measure the relationship due to various dimension of economic liberalization. Even if economic liberalization is taken to mean trade flows, it is still clearly difficult theoretically to give its employment effects.

This suggests that a generalization relationship between economic liberalization and job creation in developing countries as a whole may not exist. Rather, this relationship is context specific, dynamic and changeable, which reflects certain interactions in each economy between the external factors of economic liberalization that apply to the economy and internal factors that affect its employment response.

In view of the above, most of the studies in this area often look at the effects of globalization on various economies of the world (see Bordo, Eichengreen and Irwin, 1999; Craft and Venables, 2001; Eichengreen, 2002; Streeten, 2001; etc). In Nigeria, some related studies are Ajayi (2001), Adewuyi (2001), Asobie (2001), Iyayi (2003), Igudia (2003), Musa (2000), Kareem (2007), among others. Furthermore, studies like Fitzgerald and Perosino (1995), Ghose (2000), Greenaway, Morgan and Wright (2002), Rodriguez and Rodrik (1999), Spiezia (2002) and Bhasin (2008) take globalization to mean trade liberalization and looked at its effects on macroeconomic variables like poverty, inequality, employment, economic growth etc. Most studies that exist on the effects of globalization or its component on employment were done in the developed countries and some developing countries that are not in Africa (see Lee, 1996; Spiezia, 2002; Wood, 1994; Ghose, 2000). However, studies on the effects of economic liberalization on job creation are few in Africa, specifically in Nigeria, some of them are Faggio and Konings (2001), Iyayi (2003), Adewuyi (2005), Kareem (2007 and 2009). This might be due to the dearth of reliable data on employment in Nigeria. As a result of the dearth of empirical studies in this area, this paper is going to add to the frontier of knowledge by empirically studying the

jobs creation effects of economic liberalization in Nigeria. As pointed earlier, most of the studies in this area have not been looking at this area; especially in Nigeria (see Ajayi, 2001; Iyayi (2003); Adewuyi, 2005; Kareem, 2007).

To this end, it is worthwhile investigating the effects of economic liberalization on job creation in Nigeria. This is on the basis of several economic reforms that have been put in place in the country, which has propelled the country's enhanced interaction and integration with the rest of the world. Therefore, the question that arises is that: does economic liberalization reduce or accelerate the level of job creation in Nigeria? This question leads us to the objective of the study, which is to determine the effect of economic liberalization on jobs creation using Nigerian data. In addition to this section, the conceptual issues and review of literature are discussed in the second section. Section three presents the theoretical framework, while the fourth section focuses on unemployment/employment in Nigeria. Section five deals with the model and the empirical findings are given in section six. The last section concludes and provides policy implications.

II.   Conceptual Issues and Literature Review

There is no consensus on the definition of globalization in the development literature (see Kareem, 2009). The concept of globalization means different things to different people. Most economists take globalization to mean the closer integration of economies through trade and the flow of factors. This allows a lot of interpretations on how it could be measured. Some economic analysts believed that globalization is indicated by the relative commodity prices between trading nations. According to O'Rourke and Williamson (2000), it is the convergence of relative prices that is known as the central manifestation of globalization. While some used growth rate of trade and factor (but capital rather than labour) flows to measure globalization, others take it to be economic liberalization, which enhances closer economic interactions and even some analysts gave a narrower definition to globalization, as being the organisation and governance of global production systems (Lall, 2002). Adewuyi (2001) takes globalization to mean the process of both vertical and horizontal integration that involved an increased volume and variety of transnational transactions.   Omar (1996) conceived globalization to mean the integration of the domestic economies via financial and trade interactions, leading to the collapse of barriers to trade that makes the

domestic economy to be influenced by the policies of another country through trade and investments. Igudia (2003) defined globalization as the union of countries of the world where the national economies are opened and the economic activities are integrated with those of the international community, thus, representing a global village. Globalization could also be taken to mean the economic revolution of the new millennium which the world is shrinking into a global village (Lall, 2002).

However, economic geographers take globalization as the shifts in the location of economic activity subsequent upon shrinking economic distance. Outside the discipline of economics, globalization has been defined in variety of ways, while some take it to be synonymous with capitalism, multinational corporations and big business.

The term economic liberalization is a subset of globalization that is multidimensional, as it encompasses trade, financial, services, telecommunication etc. A lot of meanings have been ascribed to the concept, depending on the perception of the individual author. However, the most consensus term in these definitions is the freedom or non-barrier to everything across the border. This is also known as liberalization. Liberalization is the breaking of barriers to the exchange of things, be it economic, cultural, political or social. The economic liberalization of globalization that this study shall deal with entails freedom in the movement of goods and services across the border of the trading countries. This means that the wall of barriers has been broken to allow for the exchange of trade among trading parties.

However, this issue of globalization has generated three schools of thoughts. The first, being those that believe that globalization is the best thing that could happen to this world. They believe it has brought about a lot of benefits to the entire globe. These benefits include access to modern technologies that are not available domestically, exchange of fruitful ideas, access to goods and services at relatively cheaper rate to the domestic economy, increased specialization and competitiveness, enhanced modernization, access to latest information and frontier of knowledge. They argued that all these put together would enhance economic activities in any country and, thereby, accelerate economic growth and development. However, another school believes that the advent of globalization

has really brought a lot of havoc than good to any economy. They argued that globalization encourages dumping of goods and services to countries that are not competitive, especially those in the developing world.   Also, it erodes one's copyright privilege as people can use one's work without giving adequate credence or acknowledgement to the property right owners. It is also seen as encouraging the oppressor over the oppressed. The oppressors in this case are the developed countries while the developing countries are the oppressed. It is also observed that it discourages local production of goods and services, given that most developing countries' goods cannot compete favourably with those of the advanced nations. Then, the domestic industries would be forced to go out of business, thereby leading to massive retrenchment and, thus, increase unemployment level in the country. Due to these facts, some policy makers and analysts in developing countries have been going against the globalization of their economies based on the facts that it has the potential of increasing the level of unemployment and, then, aggravating poverty.

Furthermore, the last school of thought opined that globalization can have positive or negative effects, depending on the way each country introduces or accepts it. Their argument is based on the fact that while some countries have gained others have not. For instance, the Asian Tigers gained due to their own way of introducing globalization, which involved adequate transfer of knowledge and technology that then made their products to compete favourably in global market. However, in other developing countries, the reverse is the case as most of their domestic industries were not protected and, thereby, winding up due to international competition which then lead to reduction in employment level.

In addition, globalization simply entails the liberalization of the political, social and economic aspects of life in any country. The economic liberalization aspect of globalization would be focused in this study as it has a significant impact on the domestic economy. It is agreed that export-oriented economies have performed better than the import-oriented economies in terms of standard of living, wages and employment. However, this doest not say much whether globalization has been good for growth and job creation in developing countries. The secret behind the Asian Tigers' exports success did not rest on the passive liberalization, but that of building domestic capacities and leveraging international markets and resources (Mathews and Cho, 1999). There is a sharp contrast in their experience

to many other countries that liberalized their economies but eventually failed to have comparable growth in exports, incomes or employment. In other words, there is an important missing link in the conventional approach to globalization and job creation. The forces of globalization that are external, i.e., shrinking economic distance, mobile resources and the like, only provide opportunities for employment generation. The level at which poor countries utilize these opportunities or not depend largely on their ability to mount policies geared toward competitiveness; these policies are often at variance with the liberalization associated with globalization, that is, the removal of government from investment, technology flow as well as international trade.

According to Stigliz (1996) and Lall (2001), it is a well acknowledged fact that many successful so-called Asian Tiger economies did not liberalize their trade and FDI policies, but rather used widespread interventions in capital, technology and trade flows to enhance and promote competitiveness. Their trade interventions provided a domestic base for building proficiency in export activities and in reaping scale economies; while FDI interventions were used to strengthen the local technological base. Their export orientation was critical to the success of these interventions, as it provided the competitive spur needed to force the development of capabilities in protected industries (see Lall, 2002).

Thus, examining the dynamics relationship between growth, participation in global market and policy requires one understand the technological capacity approach to industrial development. As most trade theories, including that of new trade theory assume that technology can be imported and used by the developing countries without further effort, cost or uncertainty. This means that there is no learning process, and if there is, it is passive and automatic learning-by-doing. As such it is highly predictable and economically trivial; since it does not generate market failure (efficient capital markets can anticipate and finance such learning). This approach contrasts with the evolutionary approach to technology, which firms do not operate on a neoclassical production function but in a "fuzzy" world where they have imperfect knowledge of a few technologies and need to expand effort in mastering, adapting and improving upon that technology. The possibility of localized technological progress with imperfect information and missing markets raises completely differently considerations.

Christev, Kupets and Lehmann (2005) studied the effects of trade liberalization on employment in Ukraine. They used disaggregated data on manufacturing industries and custom data on trade flows taking account of shifting trade patterns after the disintegration of the CMEA trade regime. The study provides first evidence that three digit NACE sector job flows are predominantly driven by idiosyncratic factors within industries. They found that there is increased labour shedding as larger non-state share in industry relates to less job creation and more job destruction. Trade openness does affect job flows in Ukrainian manufacturing disproportionately according to trade orientation. They concluded that while trade with Commonwealth of Independent States (CIS) decreases job destruction, trade with the EU increases excess reallocation mainly through job creation.

Another study by Lall (2002) examined the employment impact of globalization in developing countries. According to him, the relationship between globalization and employment is of growing significance to policy makers in developing countries, but it is surprisingly difficult to analyse theoretically and empirically. Globalization means different things to different analysts and it is so multi-faceted that its effects are difficult to isolate and evaluate. The study found that the received trade theory does not provide a clear guide to its employment effects and in its most commonly used version, it assumes away many factors that affect employment during globalization. Thus, it depends on the ability of each country to cope with the liberalized trade, investment and technology flows that globalization implies. As this ability varies widely across the developing world (and is continuing to diverge between countries), it appears that no generalization about globalization is possible.

Heckman (2002) studied flexibility, job creation and globalization in Italy. In analysing these problems, he stressed the importance of distinguishing long-run from short-run problems and long-run from short-run solutions. The Italian unemployment is a structural problem. A substantial portion of Italian unemployment is a symptom of the deeper problem that incentives to innovate, to acquire skills, and to take risks have been thwarted by the welfare state and regulation. The costs of preserving the status quo have increased in the new world economy that is characterized by many new opportunities in technology and trade. The winners in world trade in the next generation will be those countries that can respond flexibly with educated work forces. The study concluded that in

pursuit of social justice (which in actuality is a defense of a protected enclave of workers and firms) Italy has muted incentives to invest in ideas, skills, and new technology. These muted incentives portend a second-rate Italian economy of the future.

Bhalotra (2002) examined the impact of economic liberalization on employment and wages in India. He argued that it is inherently difficult to evaluate the effects of economic liberalization for a number of reasons, suggesting at the same time, how best one may use insights from economic theory and appropriate econometric techniques to make progress in that direction. Thus, a strong usage of sound data analysis can get much further than alternative speculations. He discovered that both growth and productivity have accelerated in the economy as a whole and also in organised manufacturing. Capital stocks have been upgraded and investment in manufacturing has increased. Organised sector employment suffered a severe collapse in the early years of the adjustment process but has recovered to a pace similar to that in the pre-reform era. The study concluded that economic liberalization in India appears to have been better than in many other countries.

Klein, Schuh and Triest (2002) reviewed extensively the literature on job creation, job destruction and international competition. According to the study, hitherto, the literature has focused on the effects of international factors on net employment at aggregate levels or in selected imported-competing industries. In the long run, aggregate net employment is largely unaffected by international factors, between and within detailed industries. Thus, the study found it appropriate to study the components of net employment when measuring the impact of international factors on labour markets. They found that examining the gross job and worker turnover that is associated with changes in international factors raises questions about the accuracy of prior estimates of adjustment costs associated with international factors because gross flows are in order of magnitude larger than net employment flows.

Adewuyi and Adeoye (2008) examined the potential impact of trade policy reform arising from the economic partnership agreement (EPA) on wage and employment in the Nigerian manufacturing sub-sectors. Their simulated results revealed that both wage and employment will rise in Textile, Wearing Apparels,

Clothing and Leather Products (TWCL), Wood and Wood Products and Furniture (WWPF), Basic Metal Iron and Steel (BMIS) and Electrical and Electronics (ELECA) sub-sectors while Food, Beverages and Tobacco (FBT), Chemicals and Pharmaceuticals (CHEMPHA) and Non-Metallic Mineral Products (NMMP) sub-sectors will witness a fall in both wage and employment as a result of the policy reform induced by the common external tariffs (CET) in the context of EPA. This study recommended that with significant trade liberalization occasioned by the regional and multilateral trade negotiations, there will be a need to provide adjustment assistance to the manufacturers.

Bhasin (2008) looked at the effects of agricultural trade liberalization on poverty in Ghana using the computed general equilibrium model (CGE) for the year 1999. Specifically, the study examined the impact of unilateral partial agricultural trade liberalization in isolation, combined with foreign capital flows and value-added tax on the poverty of various categories of households, public and private sectors' employees, non-farm self-employed and non-working. He found that the elimination of trade-related import and export tariffs on agricultural goods in isolation, combined with foreign capital inflows and value-added tax, reduced the incidence, depth and severity of poverty of all categories of households. Furthermore, it was also discovered that financing of unilateral partial agricultural trade liberalization through domestic resources could have greater effects on poverty alleviation than foreign resources.

III.   Unemployment/Employment Trend in Nigeria

Unemployment has been seen as a great problem to global economic development. In recent years, both developed and developing countries have witnessed the problem, though the developed countries have been curtailing the rate of their unemployment (Kareem, 2009). However, in developing countries, especially those of Africa, and Nigeria in particular, unemployment has been on a spiral increase which has culminated into a reduction in household income and standard of living, thus, increasing the of level of poverty.

Employment generation has been seen as a means of alleviating poverty, increasing the level of economic activities and, thereby, translating into economic growth. According to Kareem (2007), the situation of employment in Africa has

become critical and labor absorption problematic. Employment can be defined as a situation where someone within the labor force bracket, willing and able to work is engaged in a satisfactory economic activity, or would otherwise be unemployed. There are many types of unemployment in the literature ranging from frictional, seasonal and cyclical, to structural unemployment. ILO (2001) agreed that the problem of unemployment among the youths in Africa and Nigeria, in particular has been identified as a major current socio-economic problem.

Furthermore, according to Ariyo (2006), the level of employment is the avenue for any human being to make a decent living. The statistics of unemployment in Nigeria is given in Figure 1 below between 1990 and 2004. The statistics show that unemployment in Nigeria has been on the high side, ranging between 30 percent in 1990 to 35.8 percent in 1997, and has been revolving around 34 percent up to 2004. It could also be seen that there were increasing trends in the level of the unemployment rate in Nigeria, which is worrisome despite the inflow of foreign capital into the country.

Figure 1
Unemployment Rate in Nigeria (%)
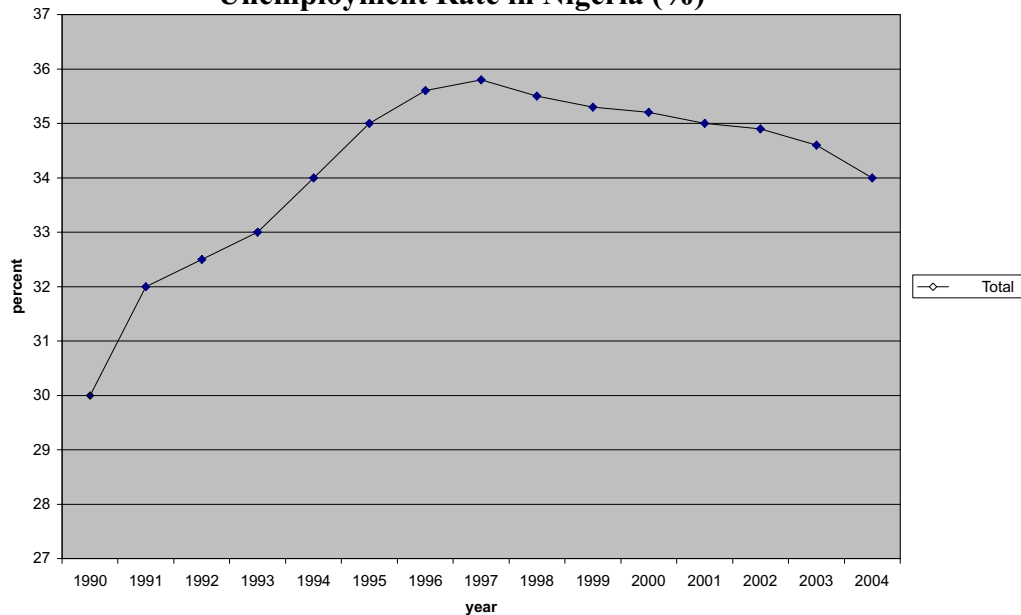
Source: World Development Indicator (2005)

On the contrary, the inflow of foreign private capital to Nigeria in 1990 was about N10.5 million and by 2000, it has gotten to over N16 million. In 2004, inflow of foreign capital has increased to over N20 million (see Figure 2 below). These statistics show that Nigeria has been experiencing increases in the inflow of foreign capital into the economy; however, this has not been translating into an increase in employment to the generality of the people. Given this, we are tempted to ask what kind of foreign capitals are brought into Nigeria?

Figure 2
The Flow of Foreign Private Investment in Nigeria
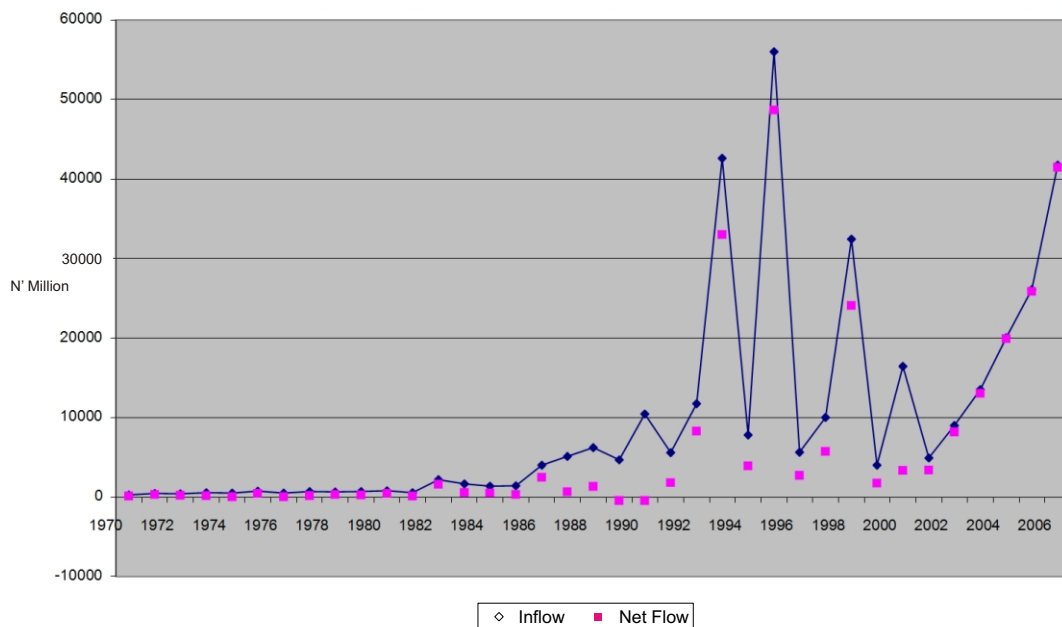
Source: Central Bank of Nigeria Statistical Bulletin (2006)

The simplest answer to this question is that most of these foreign investments or capital that were brought to Nigeria came with their manpower and technical expertise, which gives little opportunity for the majority of Nigerians to be gainfully employed and at the same time, did not allow the transfer of technology to the domestic economy. For instance, in the extractive industry, especially the oil and gas sector of the Nigerian economy, most of the technical expertise that are used in the operations are provided by foreigners. The issue of domestic content that has the potentials of creating many employments are not considered.

IV.   Theoretical Framework

It is appropriate to apply trade theory to globalization and job creation given the fact that many analysts take globalization to be the rise in exports and imports consequent upon trade liberalization. This narrow definition allows them to test with standard trade theories the impact of greater trade on the labour intensify of production in the static comparative setting that characterizes most such theories. The relevant theory is the Heckscher-Ohlin (H-O) model that was put forward by Heckscher and Ohlin (1933). The model deals with two factors of production, labour and capital, under the assumptions of perfectly competitive markets and identical production functions with freely available technologies across countries.

This model shows that a rise in trade raises the demand for labour intensive products in poor, labour surplus countries. This is commonly taken to mean that in the H-O framework, all markets are cleared with macroeconomic equilibrium and full employment throughout, thus, a rise in trade can only cause an inter-sectoral shift towards labour-intensive activities (so, higher wages), not greater employment.   Fitzgerald and Perosino (1995) note that the H-O model unambiguously predicts the direction of change of aggregate and sectoral employment and factors prices: output increases in the exportable sector and decreases in the importable sector as instantaneous adjustment takes place along the production possibilities frontier. As the exportable sector is more labour intensive than importable, the change in the composition of employment increases the aggregate demand for labour and reduces for capital. Consequently, the equilibrium real wage rises and capital rental falls. Aggregate employment does not increase because labour supply is rigid, but the increase in wages

encourages producers to adopt more capital intensive techniques in both sectors.

According to Ghose (2000), many analysts interpret the H-O model more realistically to include labour market rigidities and unemployment. This means that an increase in manufactured trade between developing (labour surplus) and developed (labour scare) countries is likely to result in an increase in employment in the former.   Globalization implies greater trade (that is through trade liberalization), the prediction is clear for manufactures. One should be careful here because the prediction may not apply to trade in primary products, which are often capital intensive. Nor does it apply to South-South trade, where the outcome depends on relative factor endowments in trading partners (i.e. some developing countries are more capital endowed than others). It is purely comparative static predictions the time period is irrelevant since adjustment is instantaneous and it depends solely on the shift of resources between activities using given technologies, not on the use of different or new technologies. In this model, there are no factor movements and so second order effects on other sectors.

Furthermore, export activity in developing countries does tend to be labour-intensive and a shift of activity to export activity, consequent upon liberalization, is thus, likely to raise the employment intensity of manufacturing.   The experience of export-oriented countries in the developing world supports this. They all launched export in highly labour-intensive activities and generated considerable employment as they expanded output. There are also second order effects on employment in import-competing industries; by relieving the foreign exchange constraint or by attracting greater foreign direct investment (FDI), export growth rises employment in these industries and, more importantly, raises the growth rate of the economy as a whole. This is in line with the general finding that export-oriented economies grow faster than inward-oriented economies and that economies shifting from the latter to the former strategies enjoy increases in exports and growth.

New trade theory, which was exemplified by Grossman and Helpman (1990), takes technological differences, scale economies and externalities into account. This theory makes use of more realistic assumptions than the HO; it does not produce unambiguous predictions for employment. To a large extent, the specific pattern of comparative advantage is indeterminate and opening up to trade does

not show how factor use will change. Once scale, agglomeration, externalities and the like are introduced into the trade model, there arises the possibility of multiple equilibrium. Thus, market might clear at a low level or low growth equilibrium where developing countries specialize under free trade in low technology, slow-growing activities. If, however, they can mount a concreted strategy to develop the skill and technology base necessary, they could arrive at a higher-level equilibrium. In such conditions, the impact of liberalization on employment depends on which equilibrium is reached, which depends in turn on government policy.

## V.	Methodology

This study sets up an econometric model to test the long run relationship between globalization and employment. We used import duty (IMPD), custom and excise duty (CED), exchange rate (EXC) and level of openness (OPN)[4] to measure globalization while the labour force participation rate was used as an index of job creation. We used annual time series from 1970 to 2007. The sources of these data are from the National Bureau for Statistics (NBS), CBN Statistical Bulletin and World Development Indicator (WDI) of the World Bank. Majority of the macroeconomic time series are characterized by a unit root so that their first differences are stationary (Engel and Granger, 1987; Nelson and Ploser, 1982). Wadud (2000) opined that if a statistical test like cointegration establishes co-movements in these time series, then the residuals from the regression can be used as an error correction terms in the dynamic first difference equation. Thus, given two time series that are integrated of order 1, i.e. I(1), and co-integrated, then there exists Granger Causality in at least one direction in the I(0) variables (Engel and Granger, 1987) and, hence, a VAR model can be set up with an error correction term in the two cointegrated I(0) time series to cover the short-run dynamics and to decrease the chance of observing 'spurious regression' in terms of the level of data or their first difference. Therefore, after estimating the multiple regression models, the study shall test for the stationary, cointegration and error correction model so as to know the long run reliability of the model. Granger causality test will also be carried out to determine the direction of causality between globalization and employment.

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[4]*Openness is measured by the addition of export and import and dividing it by the GDP.*

What we shall first do under the methodology is to specify the multiple regression model that shows the effects of economic liberalization on job creation. This model was adapted from the study of Bhalotra (2002) who did a similar work for India. Thus, this study specifies the following multiple regression equation using annual data for the natural logarithm of the variables.

$$InLFPR = \alpha 0 + \alpha 1 InCEDt + \alpha 2 InIMPDt + \alpha 3 InOPNt + \alpha 4 InEXCt + \mu t \qquad (1)$$

Where LFPR is the labour force participation rate, CED is the custom and excise duty, IMPD is import duty, OPN is the level of openness of the economy while EXC is the exchange rate. $\alpha 0$ is the constant and $\alpha 1$, $\alpha 2$, $\alpha 3$, $\alpha 4$ are the coefficients, while μt is the stochastic or error term.

Theoretically, there is no exact consensus on the relationship that might exist when an economy is liberalized (economic globalization) and employment rate. While some policymakers argue that liberalization would bring about reduction in the level of employment especially when the domestic firms products cannot compete favourably with the imported ones. Others believe it will enhance the level of employment in the domestic economy as the producers of the imported products would be encouraged to start producing the imported products locally, which will generate employment.

Prior to testing for the direction of causality between the time series, the first step is to check the stationarity of the variables used in the models. The purpose of this test is to establish whether the time series have a stationary trend, and, if non-stationary, to show the order of integration. The Augmented Dickey Fuller (ADF) unit root test is used to test the stationarity of all the time series that was used in this study. ADF equation goes thus:

$$Dy_t = \mu \, y_{t-1} + x_t' d + b_1 Dy_{t-1} + b_2 Dy_{t-2} + \dots + b_p Dy_{t-p} + V_t \qquad (2)$$

Where xt is the exogenous regressor, such as intercept and time trend, while α, β and are the parameters to be estimated and Vt is the error term that is assumed to be the white noise. The null hypothesis for the unit root test is that H0: $\alpha = 1$ and the alternative hypothesis is H1: $\alpha < 1$.

However, due to the probability of structural changes that might have occurred during the time period covered by the study, the ADF test might be biased in identifying data as being integrated even if there are structural changes. In order to control for this shortcoming that might arise from the ADF test, we make use of another unit root test called the Phillip-Perron (PP) that is developed by Perron (1997). According to Herzer, et al. (2004), this test evaluates the time series properties in the presence of structural changes at an unknown point in time and, thus, endogenises this structural break. The PP introduced an alternative mechanism of dealing with serial correlation when testing for a unit root. This method estimates the non-augmented Dickey Fuller (DF) test equation, which goes thus:

$$D y_t = a\, y_{t-1} + x'_t d + e_t \tag{3}$$

And then modifies the t-ratio of the coefficient such that the serial correlation would not affect the asymptotic distribution of the test statistic. Thus, the PP is based on this statistic:

$$\overline{t_\propto} = t_\propto \left(\frac{\gamma_0}{f_0}\right)^{\frac{1}{2}} - \frac{T(f_0 - \gamma_0)\left(se(\hat{\propto})\right)}{2 f_0^{\frac{1}{2}} s} \tag{4}$$

Where $\hat{\propto}$ is the estimated coefficient, and $t_\propto$ is the t ratio of $\propto$, $se(\hat{\propto})$ is the coefficient standard error, and s is the standard error of the regression test. Also, $\gamma 0$ is a consistent estimate of the error variance, while f_0 is the estimate of the residual spectrum at frequency zero.

Thus, after testing for the stationarity or otherwise of the time series, the next step is to test whether these time series can be used together to give meaningful result in the long run and this is derived through the cointegration test. This study shall be using the Johansen cointegration test, which was developed by Johansen (1995) rather than that of Engle-Granger (1987). The reason for this is that, Engle-Granger usually estimates the regression equation and tests the residuals for stationarity, which might be biased. Apart from that it assumes one cointegrating vector in the systems with more than two variables and lastly it assumes arbitrary normalization of the cointegrating vector. Given these shortcomings of the Engle-Granger cointegration test, we adopt the full information maximum likelihood (FIML) cointegration approach developed by Johansen (1995). This approach is based on the vector autoregressive model (VAR (p)) given as follows:

$$y_t = A_1 y_{t-1} + \cdots + A_p y_{t-p} + Bx_t + \ell_t \tag{5}$$

Where yt is a κ vector of non-stationary I(1) variables, xt is the d-vector of deterministic variables, and ℓ_t is a vector of innovations. The VAR can be re-written letting $Dy_t = y_t - y_{t-1}$

$$\Delta y_t = \prod y_{t-1} + \sum_{i-1}^{p-1} \tau_i \Delta y_{t-1} + Bx_t + \ell_t \tag{6}$$

where

$$\prod = \sum_{i-1}^{p} A_i - 1, \quad \tau_i = -\sum_{j=i+1}^{p} A_j$$

This approach asserts that if the coefficient matrix $\prod$ has reduced rank $\tau < \kappa$, then we can have $\kappa \times \tau$ matrices $\propto$ and β each with rank r such that $\prod = \propto \beta'$ and β' yt is I (0). Given this, r is the number of cointegrating relations, i.e., the cointegrating rank, and each β column is the cointegrating vector. It should be noted that the element of $\propto s$ are called adjustment parameters in the vector error correction (VEC) model, while the unrestricted VAR is used to estimate the above $\prod$ matrix.

Furthermore, another test involved the treatment of the error term in the test above as an equilibrium error, thus it uses this error term to tie the short run behavior of the InLFPR to its long run value. This test is called error correction model (ECM), which was popularized by Engel and Granger (1987). The specification goes thus:

$DInLFPR_t = a_0 + a_1 DInCED_t + a_2 DInCED_{t-1} + a_3 DInCED_{t-2} + a_4 DInIMPD_t + a_5 DInIMPD_{t-1} + a_6 DInIMPD_{t-2} +$

$a_7 DEXC_t + a_8 DEXC_{t-1} + a_9 DEXC_{t-2} + a_{10} DInOPN_t + a_{11} DInOPN_{t-1} + a_{12} DInOPN_{t-2} + a_5 ECT_{t-1} + \ell_t \tag{7}$

Where D is the first difference and ECT_{t-1} is the error correction term lagged by one period while ℓ_t is the error term.
The Granger causality approach shall be used to test the direction of causality between globalisation and employment in Nigeria. This approach tests whether one variable, say x, causes another variable, say y, so as to ascertain to what extent the current value of y can be explained by its previous values alone and to check whether the inclusion of the lagged values of x can improve the explanation.

Granger (1969) asserts that y is said to be Granger caused by x if x helps in the prediction of y.

In other words, x Granger causes y if only its lagged values are statistically significant. This approach is preferred to the correlation method that is sometimes used in the literature, given the fact that correlation does not necessarily imply causation in any meaningful sense of the word. There are several magnificent correlations, which are simply spurious or meaningless in econometric analysis.

We specify the Granger causality equation as follows:

$$Y_t = \alpha_i + \sum_{i=1}^{n} \alpha_i X_{t-i} + \sum_{j=1}^{n} \beta_i Y_{t-j} + U_t \tag{8}$$

$$X_t = b_i + \sum_{i=1}^{n} \lambda_i X_{t-i} + \sum_{i=1}^{n} \delta_j Y_{J-1} + U_{2t} \tag{9}$$

Where the Y and X represent employment and globalization, respectively. It is assumed that the disturbances U1t and U2t are uncorrelated. The F-statistic is used for the joint test of the hypothesis that:

In equation (6) $\alpha1 = \alpha2 = - - - = \alpha n = 0$ and $\delta1 = \delta2 = - - - = \delta n = 0$ in equation (9).

The null hypothesis is that globalization does not Granger cause employment in the first regression equation and that employment does not Granger cause globalization in the second regression. Thus, the F-statistic is used to either accept or reject the null hypothesis. Equation (6) postulates that the current employment is related to the past values of the employment itself as well as the globalization, and equation (7) indicates a similar behaviour for globalization. The following three outcomes are possible in any Granger causality test:

The first is the unidirectional causality which occurs when we accept one of the null hypotheses and reject the other, meaning that either the causality runs from employment to globalization or globalization to employment;

Second is when we reject both null hypotheses, indicating that the set of employment and globalization coefficients are statistically significant different from zero in both regressions. In this case we say that there is feedback or bilateral causality and, sometimes, it is also called bidirectional causality;

Lastly, when we accept both null hypotheses, it means that there is independence.

This indicates that the set of employment and globalization coefficients are not statistically significant in both regressions (Gujarati, 1995).

VI.   Empirical Result

We begin our empirical analysis by showing the degree of association between globalization (as measured by custom and excise duty (CED), level of openness (OPN), import duty (IMPD) and exchange rate (EXC) and employment through the multiple regression analysis. Table 1 depicts the result of the OLS, and it shows that statistically significant positive relationship exist between labour force participation rate (InFPR) and custom and excise duty, as well as level of openness in the economy. This means that the more the level of liberalization of custom and excise duty, the higher would be the level of employment in the country. That is, as government puts its hands off the custom and excise duties, it will allow free flow of goods and services, including technology that would then increase the level of economic activities in the country and, thereby, increase the level of employment and income. Also, if the country throws its borders open, there will be inflow of investments, which will increase the level of domestic productivity and thereby translate to higher employment rate. As it could be seen in Table 1 below, a negative relationship exists between exchange rate, import duties and employment. This means that the depreciation of exchange rate through liberalization policy has made the country's exports cheaper and, this would enhance production of domestic output for export, thereby, increasing job opportunities, especially in export producing sector. However, the increase in import duties discourages importation, which will reduce employment opportunities in the import dependent sectors of the economy, particularly, firms that are largely dependent on raw materials import for production. The autonomous variables shows that if the country does not globalize, that is restrict inflow and outflow of goods and services, there will still be increase in the employment level given the value of the constant, which is 4.4134.

Table 1: Multiple Regression Result

Variable	Coefficient	T-statistic	R2 = .8298
C	4.4134	84.2004	Adj R2 = 0.7938
InLCED	0.0573	4.2272	S.E = 0.0351
LnEXC	-0.0348	-0.7681	F.Stat = 98.1693
InIMPD	-0.1372	-9.2300	Prob(F-Stat) = 0.0000
InOPN	0.0327	6.8321	D.Watson = 1.981

From the above table, the degree of responsiveness of employment to custom and excise duties as well as openness is 0.0573 and 0.0327, respectively. This is such that for every 1percent liberalization of CED, there will about 0.06 percent job openings, and also for every 1percent increase in openness of the country's border there will be 0.03percent rise in the level of employment in the country. However, the responsiveness of employment to 1percent exchange rate liberalization is a reduction in the level of job openings by 0.03percent, though it is statistically insignificant. Furthermore, for every 1percent import duty liberalization there will be a statistically significant 0.014percent reduction in the level of employment.

The coefficient of determination (R2) indicates that about 83 percent of the changes in the level of employment in the country are explained by the level of economic liberalization. The joint significance of the model, F-statistic, which is 98.1693, shows that the model is statistically significant and can really explain the reason for the changes in the level of employment in Nigeria.

Given this results, it is necessary to test its reliability, that is, whether it is not a spurious regression. This we have done through the Augmented Dickey-Fuller (ADF) and Phillip-Perron (PP) stationarity test.

Table 2: ADF Test

Variable	Level	First Difference	Second Difference	Integration Order
InCED	-3.2957	-7.2322	-	I(1)
InEXC	-2.8872	-5.4385	-	I(1)
InIMPD	-2.6913	-4.9821	-	I(1)
InOPN	-3.1213	-3.8904	-	I(1)
InLRPR	-0.2762	-4.0697	-	I(1)

Source: Author's Computation

Note: the 5% critical value for ADF Statistic at level is approximately -3.5530 while -3.557 and -3.6220 are for the first and second difference, respectively.

Table 3: Phillips - Peron Stationarity Test

Variable	Level	First Difference	Second Difference	Integration Order
InCED	-2.0939	-7.2695	-	I(1)
InIMPD	-1.9764	-4.6910	-	I(1)
InOPN	-3.0063	-6.5309	-	I(1)
InEXC	-2.5916	-5.2067	-	I(1)
InLRPR	1.8085	-6.9041	-	I(1)

Source: Author's Computation

Note: the 5% critical value for ADF Statistic at level is approximately -3.5530 while -3.557 and -3.6220 are for the first and second difference, respectively.

Table 4: Johansen's Cointegration Test

Hypothesis	Trace Test Statistic	
Null Alternative	Statistic	critical value 5%
r = 0 r = 1	98.6778	87.31
r<1 r =2	76.9813	62.99
r<2 r = 3	69.2176	42.44
r <3 r = 4	20.8421	25.35
r<4 r = 5	9.7428	12.25

Source: Author's Computation

Table 2 above shows that all the time series that were used in this study are stationary at their first differences, that is they are integrated of order one, i.e. I(1) variables. We got the same result for the Phillip-Perron stationarity test, which then indicate that there is no influence of structural break in the model. Thus, given the fact that all the variables are I(1) variables, we need to know whether using them together in the model would yield reliable result through the cointegration test.

Table 4 above shows the result of the Johansen cointegration test. It shows that the value of trace statistic is more than the critical value at 5% in three of the five null hypotheses, which indicates three cointegrating vectors. Since the variables are cointegration, then there would be no loss of information, implying that there exist a long run relationship between economic liberalization and employment.

The result of the over-parameterized and the parsimonious error correction models (ECM) are presented in Table 5 and 6 below. In the over-parameterized regress result, it could be seen that all the variables are statistically insignificant when they are not lagged and second difference except that of exchange rate that is significant at the second difference. The parsimonious model relates the change in InLFPR to changes in InCED, InIMPD, InOPN and InEXC as well as the equilibrating error in the previous period. The ECT(-1) captures the degree of adjustment towards the long-run equilibrium. If the coefficient of the ECTt -1 is statistically significant, then the disequilibrium in the InFPRt in each period is adjusted in the next period.

Table 5: Over-Parameterised ECM

Variable	Coefficient	T-Statistics	R2 = .9162
C	3.3401	78.0119	Adj R2 = 0.8965
ΔInCED	-0.0076	-0.4365	S.E. = 0.0093
ΔInCED (-1)	0.0176	15.0795	Akaike = 5.3594
ΔInCED (-2)	0.0623	0.9417	Schwarz = -5.4361
ΔInIMPD	0.0413	1.0241	f.Stat. = 169.9018
ΔInIMPD (-1)	-0.0619	-20.8325	Prob(F-Stat) = 0.0000
ΔInIMPD (-2)	-0.0302	-0.1881	D.Wat son = 1.9096
ΔInOPN	-0.0326	0.5431	
ΔINOPN (-1)	0.0352	12.5057	
ΔINOPN (-2)	-0.0311	-1.6506	
ΔInEXC	0.0203	0.2995	
ΔInEXC (-1)	-0.0117	-2.5129	
ΔInEXC (-2)	0.1013	2.4101	
ECT (-1)	-0.8692	-24.7182	

Source: Author's Computation

The parsimonious result confirm what we got in the multiple regression that the short run changes in InCED and InOPN have statistically significant positive effects on employment as measured by InFPR, while InIMPD and InEXC have significant negative effects on InLFPR. Thus, the coefficient of ECT(-1) that is the degree of adjustment shows that about 80 percent of the differences between the actual and the long run, or equilibrium value of employment (InLFPR) is eliminated or adjusted each period. Thus, the speed of adjustment from the short run disequilibrium to equilibrium in the present period is 80 percent and it is statistically significant, which justifies the use of the error correction model in the study.

Table 6: Parsimonious ECM

Variable	Coefficient	T-Statistics	Prob	R2 = .8909
C	4.3109	68.0189	0.0000	Adj R2 = 0.8703
ΔInCED (-1)	0.0169	29.6672	0.0000	S.E. = 0.0032
ΔInIMPD (-1)	-0.0453	-34.4019	0.0000	Akaike = -0.6311
ΔINOPN (-1)	0.0226	31.0606	0.0000	Schwarz = -0.7005
ΔInEXC (-1)	-0.0107	-3.9507	0.0023	F.Stat. = 1233.4600
ΔInEXC (-2)	0.0112	2.9566	0.033	Prob(F.Stat) = 0.0000
ECM (1)	-0.7963	36.3073	0.0000	

Source: Author's Computation

Furthermore, it is appropriate to know the direction of causality between economic liberalization and employment. The Granger causality test result shed light on this, by using the lag specification as obtained from the EVIEWS.

Table 7: Pairwise Granger Causality Test

Null Hypothesis	Obs	F-Statistic	Probability	Decision	Direction
InCED does not Granger cause InLFPR	32	1.1707	0.3254	Accept	No Causality
InLFPR does not Granger cause InCED		4.0301	0.0294	Reject	Causality
InEXC does not Granger cause InLFPR	32	5.0476	0.0137	Reject	Causality
InLFPR does not Granger cause InEXC		2.5067	0.1003	Accept	No Causality
InIMPD does not Granger cause InLFPR	32	0.9230	0.4095	Accept	No Causality
InLFPR does not Granger cause InIMPD		4.7866	0.0166	Reject	Causality
InOPN does not Granger cause InLFPR	32	2.6639	0.0879	Accept	No Causality
InCED does not Granger cause InOPN		1.4148	0.2604	Accept	No Causality

Source: Author's Computation

In Table 7 above, the result shows that for the Granger Causality between InCED and InLFPR, the causality runs from InLFPR to InCED, i.e. InLFPR → InCED. That is, custom and excise duty does not Granger cause employment, but it is employment that Granger causes custom and excise duty. The second hypothesis test shows that exchange rate Granger causes employment (InLFPR), while employment does not Granger cause exchange rate, that is, InEXC → InLFPR. This means that there is unidirectional causality from InEXC to InLFPR. The Granger causality between InIMPD and InLFPR indicates that there is unidirectional causality from InLFPR to InIMPD, i.e. InLFPR → InMPD. This means that it is employment that Granger cause import duty. While for the causality between InLFPR and InOPN, we found that there is independent causality among them. This indicates that as employment does not Granger cause openness so also openness does not Granger cause employment.

The interesting thing to note from these results is that the two variables, InCED and InOPN, that have positive relationship with employment did not Granger it, while those that have negative relationship, EXC, Granger cause employment. This means that the economic liberalization indices that have more influence on employment in Nigeria are the exchange rate liberalization. Thus, economic liberalization as practiced in Nigeria has adverse effect on the level of employment in the country, given the fact that most of the industrial products cannot compete favourably with their imported counterpart.

Table 8: Correlation Coefficient Matrix

	InLFPR	InCED	InEXC	InIMPD	InOPN
InLFPR	1				
InCED	-0.8401	1			
InEXC	-0.8198	0.9313	1		
InIMPD	0.8525	0.9122	0.91404	1	
InOPN	0.7541	0.6694	0.6973	0.6368	1

VII.   Conclusion and Policy Implications

This paper examined the effects of economic liberalization on the level of employment in Nigerian. Econometric techniques have been applied in order to determine this relationship. The literature shows that different arguments have been put forward on the impact of economic liberalization on the level of employment. Some believe the relationship is positive while others argued that it is negative. There are also inconclusive findings in some studies.

Based on the econometric analysis used in this study, we found that economic liberalization has been hampering the level of employment in Nigeria. Though, we have a very important variable that gave this direction, which is exchange rate. However, the outcome of our analysis shows that the effect of exchange rate is not significant, while that of import duty liberalization is the most significant that hindered the employment level. This is reasonable, because if there is an increase in the liberalization of the import duty, there would be inflow of all sorts of products into the country, thereby, turning the economy to a dumping ground. This will greatly affect the productivity level of domestic industries, which will in turn affect the level at which the economy can create jobs. This result conforms with Dev (2000) and Lee (1996).

Thus, this study concludes that economic liberalization is not employment enhancing given the current economic situation in the country. Therefore, caution should be exercise with respect to the rate at which the country is going by its economic liberalization policy, if she is to achieve a rise in the level of employment.

The policy implication of our results is that if care is not taken, the productivity of the domestic industries might be falling, which will affect the rate of job openings, income, poverty and the country's gross national product. Therefore, to correct this likely problem(s) of economic liberalization, efforts must be made by the government to regulate the kind of economic liberalization policy it would adopt, especially that of import duty, so as to bring the desired outcome. Thus, we recommend a regulated economic liberalization for the country. This is a form of controlled liberalization, whereby the government still acts as a watchdog in the economy, because there is no country in the world where absolute deregulation is

being practiced. A good example is the various stimulus packages being unfolded/introduced in the developed world to cushion the effects of the global economic meltdown.

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