Globalisation and Employment in Nigeria's Manufacturing Sector: Further Evidence

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Abstract

The debate about the impact of globalisation on employment in the manufacturing sector has been ongoing for more than three decades. This paper examined the link between globalisation and employment in Nigeria's manufacturing sector between 1980 and 2013. The theoretical foundation of the work is Heckscher-Ohlin–Samuelson (HOS), which discusses the effects of increased trade on the structure of industry and outputs of a country. The HOS model was adapted, with a slight modification in the conduct of the investigation with Canonical Cointegration Regression (CRR) as estimation technique. The estimated model showed that manufacturing output had positive impact on employment in the sector. The results indicated that the average capacity utilisation and net export were negatively related to globalisation, implying that trade openness in Nigeria resulted in loss of jobs in the manufacturing sector. The study further revealed that customs and excise duties were reliable predictors of employment generation in Nigeria's manufacturing sector. It was suggested that the government should adopt policies that will ameliorate the adverse effects of its openness to other countries and help it compete favourably in the global market.

Keywords: Globalisation, employment, manufacturing, liberalisation

JEL Classification: D24, E24

Introduction

Globalisation is viewed as the integration of national economies through trade and capital flows among nations, made possible by trade liberalisation, removal of capital control and advancement of technology (Awolabi, 1998; Ojo and Obaseki, 1998; Ajayi, 2003). Globalisation involves the broadening and strengthening of relations between the economies of developed and developing countries through trade, finance, investment, technologies and migration. Recent developments in trade openness is grounded on the notion of interdependence between the internal and external sectors of an economy. Although globalisation can benefit developed

countries, its cost to developing countries outweighs its potential benefits. It has resulted in widening of inequality in many poor countries (Albaladejo, 2003).

For some intellectuals, globalisation means nothing more than a re-colonisation process of Third World economies. From this perspective, it is perceived as a new phase of capitalist expansion, exploitation, accumulation of wealth, inequality and polarisation of world politics (Aina, 1996). To Tverberg (2013), globalisation ties developing countries to the aprons of developed ones, so that if one rich country collapses, the collapse is likely to ripple through the systems of poor nations**.** He showed that there were significant parallels between financial dislocations in the United States and the types of changes which happened in other societies, as an aftermath of the 2007-2008 global financial crisis. His analysis was based on the model of a collapsed economy, as illustrated by Turchin and Nefedov (2009). Tverberg (2013) concluded that the failure in one country had the potential to pull many other countries down. Globalisation has become more intensified since the fall of the Berlin Wall, making the global economy more integrated and neo-liberal. In addition, the economic bases of the industrially and technologically less developed states have become decentralised. Consequently, economic globalisation has accelerated as a result of various factors, including information technologies (internet access, mobile phones, spread of commerce, travel and innovations), that have swept across the world (Muhammad, 2011).

Nigeria's manufacturing sector is still quite small and the economy remains heavily reliant on imported finished goods. Compared with other developing countries like South Africa, Ghana, Indonesia and Malaysia, the performance of Nigeria's manufacturing sector since 1980 has been less than impressive, and it has continued on a downward trend. This decline is due to such reasons as policy instability, poor macroeconomic environment, bureaucratic bottlenecks, a legal environment which does not guarantee property rights and safety, poor governance, corruption, and low commitment of governments to industrial development (Albaladejo, 2003). The sector faces several challenges, the fundamentals being erratic power supply, high cost of resources, inadequate support infrastructure and lack of capacity utilisation, which has recently been aggravated with the emergence of globalisation (Akpan, Inimfon, Daniel and Udoka, 2013). Escalation in foreign exchange rates and other attendant effects of SAP in the country resulted in high cost of raw materials and, consequently, cost of production (Aluko et al., 2004).

Nigeria remains an active player in the globalisation process at regional, sub-regional and multilateral levels. It co-founded the Economic Community of West African States (ECOWAS) and New Partnership for African Development

(NEPAD), as well as a signatory to the World Trade Organisation (WTO). It could be implied, therefore, that the country is actively involved in the globalisation initiative. However, the cost of globalisation greatly outweighs its benefits, especially in the nation's manufacturing sector. The sector has had to face domestic recession and world market exposure simultaneously. The brunt of global market exposure on the sector was so much that many of its firms had to go under; the few remaining in business were down-sized and/or operated below their installed capacities, being unable to compete favourably with transnational corporations (Busari, 2004).

Overview of globalisation and employment in Nigeria's manufacturing

There are different dimensions to the globalisation debate, especially as it affects employment generation. Paterson and Okafor (2006) opined that technological advancement induced by globalisation had led to a shift of production base or unskilled labour in developing countries, leading to a rise in unemployment rate. Globalisation does not only negatively affect demand for unskilled labour in Nigeria, it also worsens unemployment situation as the country does not have the capacity to take advantage of global market access. The argument that capital flows to the country in the wake of trade liberalisation create growth in employment in the manufacturing sector has met with a lot of disappointment, as aggregate employment in the sector substantially declined. Relative low wage and employment elasticity in Nigeria is associated with globalisation; and it has been adjudged to have adverse implications on workers' welfare (Orbeta, 2002). The growth of manufactured imports in the country affects employment in the sector. Today, the average citizen prefers imported goods to local ones in the conviction that local products lack international standards. In addition, the activities of transnational corporations in the country negatively affect the level of employment in the sector.

The average manufacturing capacity utilisation rate (AMCUR) in Nigeria was 76 percent in 1975. Following the worldwide recession of 1981 and 1982, AMCUR fell sharply to 73.3 percent and 63.6 percent respectively. In 1983, 1984 and 1985, the trend worsened, nose-diving to 49.7, 43.0 and 38.3 percent respectively. This was the beginning of what can be called 'destabilisation' in the manufacturing sector performance. AMCUR ranged between 40 and 42 percent between 1987 and 1991. This trend appeared somewhat stable during this period, but nose-dived to 33.5 percent between 1992 and 1997. This decline in manufacturing activities continued until 2001 when the sector recorded a 42.7 percent AMCUR. Between 2002 and 2008, the sector recorded growth in AMCUR, with capacity utilisation of 54.6

percent on the average. The overall performance of the manufacturing sector has been below expectation as a supposed engine of growth of the economy. The drastic reduction in imports of raw materials following the introduction of austerity measures in 1982 and general policy reversals in the sector had adverse effects on the manufacturing sector. Moreover, the sharp depreciation of the naira adversely affected most manufacturing firms because of the increasing cost of importation of spare parts/machinery and infrastructural deficits, and weak demand resulting from declining domestic purchasing power, high interest rates, and gross under-utilisation of capacity (Ajakaiye et al., 2016). This led to increased importation of consumer goods without a significant increase in manufactured export; it shattered local firms, as most consumers prefer cheap and better products to expensive locally produced goods due to high cost of production and high technological deficiencies in the sector. Consequently, many firms left the sector and, thus, rendered many Nigerians unemployed.

Review of Literature

The concept of globalisation has diverse usage; but in the context of this study, the focus is economic globalisation. In its simplest sense, it refers to the widening, deepening, and speeding up of global interconnectedness (Held and McGrew, 2003). As the phenomenon gained momentum in the late 20th century, it brought about a corresponding increase in trade and capital flows, as well as labour mobility among and between countries. The significance of these economic interactions among countries has long been acknowledged in the literature (Albaladejo, 2003; Rama, 1996). According to Rama (1996), 'globalisation' is the growth or, more precisely, the accelerated growth of economic activity across national and regional political boundaries. It finds expression in the increased movement of tangible and intangible goods and services, including ownership rights, via trade and investment, and often of people, via migration. It can be and often is facilitated by the lowering of government impediments to that movement and/or by technological progress, notably in transport and communications. The actions of individual economic actors, firms, banks and people drive globalization usually in the pursuit of profit, often spurred by the pressures of competition.

According to Obayelu, (2007), employment rate in Nigeria has generally declined due to globalisation. He analysed the effects of globalisation on employment and employees' wages by looking at what happened before, during and after the emergence of globalisation in Nigeria between 1970 and 1997. Using descriptive statistics, the results showed that globalisation of the Nigerian economy

through various economic reforms, deregulation and privatisation led to a downsizing of employment in the civil service, thereby compounding the widespread job queue in the economy. He observed that the collapse of some of the private sector firms also led to retrenchment of workers following stiff competition from import after liberalisation; this increased both rural and urban unemployment in the nation. His investigation revealed an increase in income inequality in the country. He opined that there was the need for training and retraining of employees in order to assist them in keeping their jobs.

Aluko, Akinola and Fatokun (2004) surveyed three textile firms in different locations in Nigeria. The data were collected by means of pre-tested questionnaire. The analysis showed that capacity utilisation of the manufacturing sector fell below 40%, indicating that globalisation adversely affected capacity utilisation in the sector. They opined that the problems associated with globalisation and liberalisation of trade hindered sustainable development in Nigeria. In the same vein, Muhammad (2011) submitted that globalisation had negative effects on employment level in the country's textile firms. He used data from secondary and primary sources on the performance of Nigerian firms and observed that many indigenous textile firms in the country collapsed because they could not compete favourably with their foreign counterparts.

Ogunrinola and Osabuohien (2010) found a positive relationship between global competitiveness (a proxy of globalisation) and employment in the Nigerian manufacturing sector between 1990 and 2006. The study used HOS approach in its analysis, and its findings contradicted Patterson and Okafor (2006) but supported Olayinka (2006) with respect to the relationship between employment and globalisation. In addition, they observed that there were variations in the levels of significance of the coefficients of customs and excise duties and trade openness, implying that customs and excise duties influenced the employment level and competitiveness of the sector.

Seager (1997) utilised gross trade flows between the northern and southern countries of Organisation for Economic Cooperation and Development (OECD), as a share of gross domestic products (GDP) to capture their increasing integration in the global economy. A dataset covering 1970, 1975, 1980, 1985 and 1990 was obtained for the 23 OECD economies. The regression results showed that north-south trade and intra OECD trade had fundamentally different effects on patterns of production and employment in developed countries. Its econometric estimates indicated that even north-north trade could be associated with contraction in manufacturing employment. However, changes in intra OECD manufacturing trade

balances had a minor effect on the structure of production and employment at the aggregate level.

The study by Spiezia (2004) was based on the impact of trade on the manufacturing sector (by comparing labour intensities of exported, imported and non-tradable goods) of 39 developing countries. Using a set of panel data for a sample of 39 countries over different periods within the mid-1980s to mid-1990s, he found no significant employment impact of foreign domestic investment and domestic investment. However, when the sample was disaggregated by income levels, the estimated regression showed a positive and significant impact of FDI on middle and high income countries, with the low income countries not showing any impact of FDI on employment. He opined that in 21 out of the 39 sampled developing countries, an increase in the volume of trade resulted in an increase in employment; nonetheless, increased integration produced a reduction in employment in the remaining 18 countries.

Weeraratne (2004) found that globalisation had a major impact on the textile and apparel manufacturing industry in Sri Lanka. Ordinary least square technique was used to analyse the data between 1990 and 2002. The results revealed an increase in exports and employment opportunities in the industry. But the globalisation process created unhealthy import dependency in terms of technology and other inputs in the industry. The result was a low level of development of backward linkage industries and a decline in capital inflow to the local apparel industry.

A significant analysis and discussion on the subject matter was presented by Thoburn (2001) in South Africa. The data were collected through a postal survey of some textile manufacturing companies and extensive interviews of selected personnel in these firms. The survey responses indicated that the performance of textile firms worsened over the years. Also, in a classic critique of the impact of globalisation, Jean-Yves and Verdier (2013) concluded that globalisation goes hand in hand with decreased competitiveness of some industrial sectors like textiles and, consequently, job losses. However, they averred that it is hard to evaluate the impact of globalisation on job volume loss worldwide.

Joining the contentious debate on the effects of globalisation on developing economies, Akpan and Atan (2015) used the error correction framework to test annual time series data for the period 1970-2011. They submitted that globalisation had positive impact on Nigerian agricultural, manufacturing and international trade sectors. The authors observed that the magnitude and significance of the impacts

varied from one sector to another and concluded that globalisation offers Nigeria great opportunities to improve on its economic performance in the selected sectors.

Ogunyomi et al. (2013) empirically investigated the impact of globalisation on economic security, with a reflection of the performance of the Nigerian manufacturing sector. Using cointegration and error correction mechanism (ECM) techniques with annual time series covering the period 1981-2010, the study revealed that globalisation had negative impact on the performance of the Nigerian manufacturing sector in the long run, but positive effects in the short run. It thus recommended that policymakers should adopt a proactive and appropriate policy mix in economic, fiscal, monetary, political, institutional and risk-management frameworks, in order to harness and maximally gain from globalisation while minimising its uncertainty shocks to the economy.

Danladi et al. (2015) examined the impact of globalisation on the manufacturing sector of Nigeria using secondary data from World Bank Development Indicators (WDI) between 1980 and 2013. Degree of openness, foreign direct investment, exchange rate and inflation rate were used to capture the causal relationship between globalisation and employment in the sector. Vector Auto-Regression (VAR) model was employed and its findings showed that a positive relationship existed between globalisation and employment in the manufacturing sector. The study supported the theoretical expectation that when a country interacts more with others, it raises its general production level and, hence, manufacturing output. Thus, it recommended that the government should ensure continuous openness of its economy in a beneficial way and also put up measures to increase the confidence of investors in the activities of the sector.

Generally, empirical results show that the impact of globalisation on the manufacturing industry is largely disparate. It varies from industry to industry and from country to country. This observation is supported by empirical evidence in Kletzer (2001), who concluded that the processes and consequences of globalisation are unpredictable, and could be reversed at any time.

Despite that the studies above established evidences of impact of globalisation on employment in Nigeria's manufacturing sector, research in this area is still relatively few. The literature is also unclear about the direction of impact of globalisation on employment in the sector and there is no common picture of the relationship. This study therefore aims at showing further evidence of the association between the two to contribute to literature.

Theoretical Framework and Methodology

The basic model to analyse the impact of globalisation on employment has been the Stopler-Samuelson/Heckscher-Ohlin theorem (Verick, 2006). Hence, the theoretical foundation of the current study is rooted in the Heckscher-Ohlin–Samuelson model, which discusses the effects of increased trade on the structure of industry and outputs of a country. This key contribution to neoclassical trade theory predicts that trade liberalisation (a major component of the globalisation process) leads to an increase in the demand for labour-intensive exportable goods in developing countries (assuming that it is the relatively abundant factor), resulting in an increase in its price and wages for those employed in this sector. The growth of employment in exporting industries depends on the elasticity of demand for labour in this sector, which in turn is conditional on the supply elasticity.

Eli Heckscher (1879–1952) and Bertil Ohlin (1899–1979) were two Swedish economists who postulated a theory that addressed two issues (what factors determine comparative advantages and what effect does foreign trade have on the factor incomes in the trading nations?) that the Ricardian theory could not explain (Verick, 2006). The Heckscher–Ohlin theory focuses on the differences in relative factors endowments and factors prices among nations as the most important determinants of trade (under the assumption of equal or similar technologies and tastes). It maintains that the sources of factors endowments determine a nation's comparative advantage. This arrangement is the basis of the factor endowment theory, which analyses the differences in factors endowments across nations. According to this theory, a nation should produce and export a product for which a large amount of relative abundant resources is used and such country should import the commodity in which more of its relative scarce and expensive factors are used (Akpan et al., 2013).

Later, Paul A. Samuelson (1915-2009) added substantial rigour to the analysis and expanded the original Heckscher-Ohlin model. Building upon David Ricardo's (1772–1823) earlier comparative advantage trade model, the Heckscher-Ohlin-Samuelson model (hereafter HOS) goes behind comparative advantage to ask: What determines comparative advantage in the first place? The HOS model's answer is found by utilising Heckscher's observations that: (i) countries differ in their relative endowments of the factors of production, (ii) production processes for different goods employ different relative intensities of the factors. Besides predicting trade patterns theoretically, the HOS model also yields implications of trade for factor prices and income distribution in the countries. Given the assumptions of the model, not only are relative factor prices but also absolute factor prices across countries

equalised. Thus, the HOS model has a growth dimension with implications for future outputs and trade patterns (Verick, 2006). 'Empirical works as well as other considerations regarding the HOS model have led to the recognition that the theoretical model is widely employed' (International Encyclopedia of the Social Sciences, 2008). The model is considered suitable for this study because of Nigeria's relative labour endowment. Previous studies in Nigeria (Ogunrinola and Osabuohien, 2010; Paterson and Okafor, 2006; Olayinka, 2006; Aluko et al., 2004) also applied it. Time series regression was employed to show the impact of globalisation on the manufacturing sector in Nigeria. Annual data from 1981 to 2013 were sourced from the Central Bank of Nigeria (2014).

Model specification

HOS model has 'variable factor proportions' between countries. Developed countries have a comparatively high capital/labour ratio, compared to developing countries. In other words, the developed economies are capital-abundant, relative to developing ones, which are labour-abundant. The original HO model has been extended since the 1930s but the fundamental role of variable factor proportions in driving international trade remains unchanged. However, it has been modified to accommodate real world variables that affect international trade, such as tariff, as a way of discussing macroeconomic policies. For instance, Spieza (2004) posited a positive relationship between employment and investment and specified his model as:

$$L = (E_t, D_t, M_t) \quad (1)$$

Where
L is the level of employment
E is the rate of export
D is the output of non-traded goods
M is the level of imports

In addition, Aryeetey (2006) formulated and estimated a labour demand equation of the form:

$$L_t = a_1 + a_2W_t\, a_3Y_t + a_4X_t + \mu_t \quad (2)$$

Where
L is total employment

W is the real minimum wage
Y is the real GDP
X represents the degree of openness of the Ghanaian economy to other countries.

Ogunrinola and Osabuohien, (2010), another variant of HOS model in a study of Nigeria, specified his model as**:**

$$InEMPM_t = \beta_0 + \beta_0 InRWG_t + \beta_2 InRCK_t + \beta_3 InROMP_t + \beta_4 Z_t + \mu_t \quad (3)$$

Where:
EMPM is the employment level in the manufacturing, measured by the number of workers in the employment of manufacturing sector
RWG is real wage rate
RCK is the prime lending rate, representing the employers' cost of capital
ROMP is the real output of the manufacturing sector
Z is a measure of openness
μ_t is the error term

The scope of Ogunrinola and Osabuohien (2010) is relatively narrow (1990-2006), while the current study has an extended period of coverage (1981-2013). Also, its inclusion of real wage (REWG) as a predictor of employment is questionable (Bodkin, 1969; Grean and Kenan, 1982; Kuh, 1966). Theoretically, real wage rate is not a predictor of employment but is driven by conditions in the employment market. Thus, it was excluded in this study. Also, three variables were used as proxies for globalisation in contrast to Ogunrinola and Osabuohien (2010) who used two variables. In addition, this study incorporated recent data that the previous lacked.

Following Ogunrinola and Osabuohien (2010) with a slight modification, the study used the estimated model:

$$InEMPM_t = \alpha_0 + \alpha_1 InMAOP_t + \alpha_2 InAMCU_t + \alpha_3 InTROP_t + \alpha_4 InNTXP_t + a_5 InCUXD_t + \alpha_6 InLOR_t + \mu_t \quad (4)$$

Where
EMPM represents employment generation in the manufacturing sector annually
MAOP is the manufacturing outputs, refers to the total products of the sector in a year
AMCU is the average manufacturing capacity utilisation annually in the sector. It is the extent to which an enterprise or a nation actually uses its installed productive capacity. It is measured as the relationship between actual output that is produced with the installed

equipment, and the potential output which could be produced with it, if capacity was fully used.

Also, four variables were used to represent globalisation. The first is a measure of trade openness (TROP), defined as total external trade as a proportion of GDP of Nigeria (i.e. (export + import/GDP). The second is net exports (NTXP), which could be described as the economy's volume of exports less its imports annually. The third is customs and excise duties (CUXD), described as the total annual sum realised from levies on manufactured or locally produced goods and imported items in the country. The fourth is labour-intensity (labour-output ratio, or LOR) which is the ratio of real gross domestic product and labour force.

All variables were expressed in logarithms for easy stationarity to improve model fit and reduce skewness (Keene, 1995). From the classical perspective, MAOP, AMCU, TROP, LOR and NTXP were expected to exert positive effects on employment (EMPM), while CUXD was expected to correlate negatively with it in accordance with the HOS postulates. Symbolically, these expectations were: α_0,α_1, α_2, α_4, α_5, $\alpha_6 > 0$;α_3, $\alpha_7 < 0$.

Results and Discussion

Unit root and Cointegration Tests

It is common to test the stability of time series data in economic analysis before the main estimation. Most economic variables are not stationary at level; hence, they have to be differenced (Gujarati, 2003). The unit root tests showed that the variables were stationary at first difference. Therefore, the null hypothesis that the variables contain unit root was accepted at the conventional levels of significance (1%) critical value (Table 1). All variables were integrated of order one I(1). The cointegration test (Tables 2 and 3) presents the results of the Johansen tests for cointegration among the variables. The results showed that there was no conflict between the Trace and Maximum Eigen values, indicating that there were six cointegrating equations. Therefore, there existed long-run relationships among the variables. To account for possible cointegration among the variables, Canonical Cointegration Regression (CRR) approach was employed (Table 4).

Table 1: Stationarity results

Augmented Dicken Fuller (ADF) test at first difference				
Variables	*Critical Values*	*T statistics*	*Level of significance*	*Order of integration*
Employment generation (EMPM)	-6.180532	-3.661611	1%	I(1)
Manufacturing outputs (MAOP)	-5.344361	-4.356068	1%	I(1)
Average manufacturing capacity utilization (AMCU)	-4.030155	-3.661661	1%	I(1)
Trade openness (TROP)	-8.213743	-3.661661	1%	I(1)
Net exports (NTXP)	-5.634959	-4.296729	1%	I(1)
Custom and excise duties (CUXD)	-6.832611	-4.296729	1%	I(1)
Labour-intensity (LOR)	-5.458494	-4.284580	1%	I(1)

Source: Author's computation with E-Views

Table 2: Johansen test for cointegration (trace value)

Hypothesized	*Trace*		*0.05*	
No. of CE(s)	*Eigenvalue*	*Statistic*	*Critical Value*	*Prob.***
None *	0.914017	221.1744	125.6154	0.0000
At most 1 *	0.745743	145.1125	95.75366	0.0000
At most 2 *	0.686560	102.6609	69.81889	0.0000
At most 3 *	0.573423	66.69636	47.85613	0.0003
At most 4 *	0.421402	40.28556	29.79707	0.0022
At most 5 *	0.373578	23.32398	15.49471	0.0027
At most 6 *	0.247727	8.824330	3.841466	0.0030

Source: Author's computation with E-views

Table 3: Johansen test for cointegration (Max-Eigen value)

Hypothesized	*Max-Eigen*		*0.05*	
No. of CE(s)	*Eigenvalue*	*Statistic*	*Critical Value*	*Prob.***
None *	0.914017	76.06185	46.23142	0.0000
At most 1 *	0.745743	42.45166	40.07757	0.0265
At most 2 *	0.686560	35.96452	33.87687	0.0278
At most 3	0.573423	26.41081	27.58434	0.0701
At most 4	0.421402	16.96157	21.13162	0.1738
At most 5 *	0.373578	14.49965	14.26460	0.0459

Source: Author's computation with E-views 9

Table 4: Canonical cointegrating regression (CCR) results

Variable	*Coefficient* (α_i)	*Std. Error*	*t-stat*	*Prob.*
Intercept (α_0)	6.700091	2.911457	2.301285	0.0300
InMAOP	0.168944	0.322340	0.524116	0.6048
InAMCU	-0.178340	0.191005	-0.933690	0.3594
InTROP	0.064881	0.010165	6.383080	0.0000
InNTXP	-0.184690	0.103966	-1.776447	0.0878
InCUXD	0.396428	0.095129	4.167272	0.0003
InLOR	-0.509490	0.442417	-1.151606	0.2604

R-squared 0.960017 Long –run variance 0.004873
Adjusted R-squared 0.950421S.E. of regression 0.143800
S.D. dependent var. 0.645821

Source: Author's computation with E-views 9

Regression results

Canonical Cointegrating Regression (CCR) overcomes the deficiencies of ordinary least squares (OLS) regression in the case of highly collinear data. Besides, it allows an analysis of data in terms of independent latent variables or components and shows their long-run variance. Proponents of CCR consider it superior to other biased regression methods. However, it is unlikely that there is a single superior technique for predictive modelling (Hoskuldsson, 1992). The estimated model (Table 4) shows that manufacturing output (MAOP) had positive impact on employment in the sector. Also, a positive relationship existed between the trade openness index and employment, implying that the more the country is open to global trade, the higher its employment level. This result is, however, not statistically significant since its probability values exceeded those of 1 percent and 5 percent levels of significance. Custom/excise duties were found to have positive and significant (5 percent) impact on employment; that is, the higher the custom/excise duties, the higher the employment generation. However, net exports had negative effect on employment as a result of the country's integration with the global economy.

In addition, the average manufacturing capacity utilisation exerted negative influence on employment generation; this means that there existed an inverse relationship between average manufacturing capacity utilisation and employment generation in the sector. A one percent increase in the average manufacturing capacity utilisation will lead to about 18 percent reduction in employment level. The

R^2 shows that 96 percent deviations in the employment generation in the manufacturing sector were captured in the model by the explanatory variables, while the remaining 4 percent were the factors affecting employment generation that were not captured in the model.

Manufacturing sector output had a positive sign, which was expected; however, it was significant only at 10 percent level. This could be attributed to the continued importation of raw materials and finished goods. In addition, the sector faced stiff competition, which captured its market share (Carr and Chen, 2002). The negative and non-significance of the coefficients of the average capacity utilisation and net export may be due to the fact that the economic, socio-cultural, technological, ecological and political development of the country were still low and not strong enough to ensure economic development through increased employment generation. Contrary to expectations, this study found a significant and positive impact of trade openness on employment. Nevertheless, this is not plausible, with the situation in the country and other developing countries, whose manufacturing sector has been grounded due to stiff global competition (see Jean-Yves et al., 2013; Muhammad, 2011; Aluko et al., 2004). Capacity utilisation was low in the economy as a result of high cost of production and unfavourable business environment. More so, Nigerians preferred cheap foreign goods to locally made goods.

The response of the estimated model depended on the production specialty of the manufacturing sector (tradable or non-tradable). Given that it specialised in producing exportable goods (with international standards), then the demand for these products would have increased as a result of globalisation. Consequently, increase in employment rate would have been witnessed. In contrast, products of the sector were non-tradable; they were assumed to be of low quality, compared to imported ones. In addition, the cost of doing business in Nigeria is complex and costly. The nonexistence of free trade zones, through liberalisation and deregulation also hindered the growth and development of the sector. These illustrate barriers that the sector faces, which made it globally uncompetitive. Therefore, if there is no paradigm shift in the sector, the impact of globalisation on its employment level would be indeterminate.

Conclusion and Recommendations

The study analysed the impact of globalisation on employment in Nigeria's manufacturing sector using broadly defined measures of globalisation. To account for possible cointegration among the variables, it employed Canonical Cointegration Regression (CRR) approach in its analysis. Using the time series data of Nigeria

during the period 1981-2013, this study provided new evidence on impact of globalisation on employment in the manufacturing sector of the economy. The results showed that customs and excise duties and trade openness emerged as reliable predictors of employment in Nigeria's manufacturing sector. Although the study updated the findings of Ogunrinola and Osabuohien (2010), it contradicted the latter's submission, reporting an inverse relationship between trade openness and employment generation in Nigeria. Overall, the study addresses an issue of policy significance and the empirical results are highly plausible. It is noteworthy to remember that Nigeria is a small player in the global economy, implying that it is highly dependent on the global economy.

Although the economic import of globalisation cannot be overemphasised, policymakers should not shy away from its associated risks and costs. The Nigerian government, therefore, needs to make business environment more enabling in ensuring that cost of doing business in Nigeria reduces to the barest minimum so that manufacturers can be motivated to continue in business and new ones can come on board. An enabling environment would lead to good performance and, consequently, higher profit before tax, which tends to be a juicy avenue for government to generate revenue in the form of corporate/ company tax. The absence of infrastructural services has hindered production; hence, the need to fix the infrastructure deficits, especially electricity and road networks so that manufacturing productivity can be enhanced.

In addition, the direct association between employment and trade openness in the results raises a concern, because it is far from what is obtainable in the economy. Trade openness or liberalisation has weakened the sector greatly and many manufacturing firms have gone into extinction as a result of unparalleled foreign competition. There should be political will on the part of the government, therefore, to reduce or totally ban importation of some goods that can be produced locally so that the sector can recapture its market share and eliminate stiff competition. Although the era of drastic reduction in trade restrictions, orchestrated by multilateral organisations like the World Trade Organisation, has come to stay, Nigeria should adopt policies that help ameliorate the adverse effects of its openness to other countries.

Improvement in the sector's capacity utilisation can be achieved if the local content law is implemented in the manufacturing sector. Nigerians also should support the government by patronising locally made goods instead of foreign ones. In order to remedy the situation, special attention should be paid to the development and technological upgrade of the manufacturing sector, in general, and labour-

intensive components, in particular. A further study with more focus on trade openness is, therefore, suggested.

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