NIGERIA’S INDUSTRIAL DEVELOPMENT, CORPORATE GOVERNANCE AND PUBLIC POLICY

Editors
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Wakeel A. Isola
NIGERIA’S INDUSTRIAL DEVELOPMENT, CORPORATE GOVERNANCE AND PUBLIC POLICY
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Abstract
This paper examines deindustrialisation in Nigeria and Ghana within the context of the various economic reforms embarked upon by the two countries in the last few decades. The paper is an attempt to evaluate the efficacy of the reforms. Although, the reforms were initiated in the 1980s, the basic tenets of the market (deregulation of the exchange and interest rate) are still in force till the present time. Following the theoretical framework adopted in this study, a simple time series model is designed to estimate the relative effects of economic reform variables on the employment structure in industry in both countries. This paper employs Ordinary Least Square (OLS) method. The results of this study reveal that, economic reforms have negatively impacted on the industrial sector in Nigeria while the reverse is the case in Ghana. The study suggests as panaceas for ameliorating the pathetic situation of the industrial sector in Nigeria that regular supply of electricity and good governance is desirable.

Introduction
Industrialisation as a deliberate economic strategy to foster economic growth and development has been a phenomenon in Africa since their independence. African economies have accorded high priority to industrialisation in their developmental policies and programmes. In this regard, industrialisation in these countries is expected to facilitate the transformation of the economic structure into modern industrial economies. Past evidence has confirmed the use of industrial, trade and technological policies as the main ingredients in the structural transformations of Western economies (See Lin and Monga, 2010). Also, empirical evidence from developed, newly industrialising and emerging economies has shown that sustainable development cannot be achieved on a weak industrial base (Lall, 1999).

According to Adejugbe (2004) industrialisation is concerned with the expansion of a country's manufacturing activities, including the generation of electricity and the
growth of its communications network. It is a process of reducing the relative importance of its extractive industries and of increasing the relative importance of the secondary and tertiary sectors. The most prominent features of an underdeveloped economy, as in African countries, are the dominance of agricultural and extractive sectors on the national economy. Industrialisation therefore, is the gradual withdrawal of redundant agricultural labour from the rural areas and its transformation into the industrial cities.

Africa’s experience and experiments in industrialisation process at independence was very appalling and aggravating. A number of factors have been attributed to this condition. First, industrialisation was relegated to the background in Africa by the colonial masters in the pre-independent era. This derives from the fact that industrialisation was not part of the colonial economic policy, which was anchored on making the colonies mere producers of primary raw materials to feed foreign industries and as importers of manufactured goods from Europe. Second, the colonial time was a period in which Africans began to produce not what they consumed or needed but what the Western industries required. Furthermore, it was a period in which many countries saw the demise of artisanal manufacturing, as artisanal production of tools lost markets to cheaper western manufactured goods (Adejugbe, 2006). Consequent upon these facts, at independence, the structure of African economies was not geared toward transformation and value addition but rather commodity extraction and export.

To accomplish this objective, most countries adopted different industrial policies such as the Import Substitution Industrialisation (ISI), Structural Adjustment Programme (SAP), Export Promotion Strategy and Poverty Reduction Strategy among others (see Egwaikhide, 1997). It must be noted that apart from the ISI that was based on non-market orientation, other policies starting from the SAP has continued to advocate tenet of the markets with a few qualifications like the firmness on good governance, capacity building and the need for strong institutions in developmental efforts. Thus, most African countries were able to implement different policies ranging from regulated (non-market) to deregulated (market) options to boost industrialisation in Africa.

A major fall out of the reforms is that economic situations of most African countries have degenerated to such a deplorable level that most of the manufacturing companies converted to warehouses for refilling and packaging of finished imported goods, thus symbolising virtual collapse of the manufacturing sector, i.e deindustrialisation. The reverse is the case in other countries. An attempt to empirically investigate the extent to which the economic reforms have impacted on
the industrial sectors in Nigeria and Ghana for necessary policy options seems to justify this study. It is against this backdrop that we intend to examine economic reforms and deindustrialisation in Nigeria and Ghana.

The attraction for Nigeria and Ghana becomes relevant as both countries share many features in common, including economic reforms. The birth of economic reforms in Ghana was necessitated by the deep economic crisis experienced in the late 1970s and early 1980s. Boateng (2004) admits that the Ghanaian economy recorded an annual average growth of -2.2% between 1975 and 1982 with average annual inflation of 64% and balance of payments deficit of $6.8m over the period. The economic situation in Nigeria was very close to the condition in Ghana. Iwayemi (1995) vividly, captures the features of the Nigerian economic problems of the post – 1980 period to include, a galloping inflation, large and soaring unemployment, serious deterioration in the social and economic infrastructure, mega-dollar foreign debts, a sharp fall in international reserves and the value of the naira. Others include chronic fiscal and current account deficits. Consequently, while Ghana embarked on economic reforms in 1984, Nigeria commenced her Structural Adjustment Programme (SAP) in 1986. A comparative analysis of both countries will no doubt reveal the extent to which the economic reforms have impacted on the industrial sector which, will provide the basis for necessary policy options.

The remainder of this paper is structured as follows: Section 2 presents the sectoral employment in Nigeria and Ghana vis-a-vis other countries. Section 3 presents the literature review. Section 4 elaborates on theoretical and methodology of the paper. Section 5 presents and discusses the empirical results, while Section 6 concludes.

Structural Characteristics of Employment in Nigeria, Ghana and other Countries
The structural characteristics of employment in Ghana and Nigeria in the agriculture, industry and service sectors in relation to other countries are discussed in this section in order to appreciate the extent of deindustrialisation in both countries.

A superficial glance into the share of agriculture, industry and service sectors in the total employment in Nigeria and Ghana reveals the changing structure of employment in these countries. Whilst the two countries could be said to be witnessing deindustrialisation (falling share of employment in the industrial sector), the pattern of absorption of employees by the two other sectors in the two countries differs. While in Ghana the agriculture sector has predominantly been the largest employer of labour, the trend has shifted from the agricultural sector in the early 1990s to the service sector as at 2010 (See Figures 1 and 2), in the case of Nigeria.
An attempt to benchmark the employment characteristic in both countries with the rest of the world will no doubt depict that industrialisation is still at the low ebb in Nigeria and Ghana. As illustrated in fig. 3, service sector dominated the employment structure in developed countries, like the United States of America (US) and the United Kingdom (UK) followed by industry and agriculture. This is at variance with the situation in Nigeria and Ghana. To some extent, the situation in Latin America and the Caribbean is similar to that of US and UK except that agriculture is more prominent. East Asia and South Asia share almost the same characteristics but
agriculture plays a key role. The Sub-Saharan Africa presents a scenario where agriculture forms the lion's share of employment followed by service and meagre employment in the industry, reflecting de-industrialisation as depicted in Ghana and Nigeria.

![Employment Type across Different Regions and Continents (2010)](image)

**Fig. 3:** Employment Type across Different Regions and Continents (2010)

**Source:** FAO Statistical Yearbook 2012

**Literature Review**

Devine (1979) succinctly elaborate on the structural transformation of an ideal economy from the agrarian through manufacturing to service sector as the basis of explaining the stage of economic development. At the initial stage of a typical development, agriculture plays a crucial role as the foundation of the economy. However, the relative importance of the primary sector has to fall continuously as per capita Gross National Product (GNP) rises at a higher level of development. This decline is predicated on and largely marked in the case of employment than in production. Furthermore, the relative importance of the secondary sector must increase as per capita GNP rises whether measured in terms of production or employment. At the last stage, the relative importance of tertiary sector rises continuously as per capita GNP rises, when measured in terms of employment

Available and relevant literature shows that the decline in the share of manufacturing in employment has been characterised as deindustrialisation. Similarly, Corden and Neary (1982) describe a situation where the manufacturing sector is declining as a result of a boom in another sector, usually an extractive one, like energy, as

---

1 See Fig. 4 in Appendix
deindustrialisation. This concept has been a worldwide phenomenon in the recent decades.

The literature on deindustrialisation became known primarily in the UK, and was concerned with explaining the slowdown in growth. A prominent early contribution was Singh (1977), who conceptualises deindustrialisation in terms of an ‘efficient’ manufacturing sector, in the sense of its being able to provide (currently and potentially) sufficient net exports to meet the country’s overall import requirements at socially acceptable levels of output, employment and exchange rate. Rowthorn and Wells (1987) make a distinction between positive and negative deindustrialisation. Positive deindustrialisation is regarded as the normal result of sustained economic growth in a fully employed and already highly developed economy. It occurs because productivity growth in the manufacturing sector is so rapid that, despite increasing output, employment in this sector is reduced, either absolutely or as a share of total employment. However, this does not lead to unemployment, because new jobs are created in the service sector on a scale sufficient to absorb any worker displaced from manufacturing. Ironically, this kind of de-industrialisation is a symptom of economic success. This condition characterised most developed economies before the 2006-2010 global financial recession. This is contrasted with negative deindustrialisation, which is a product of economic failure and occurs when industry is in severe difficulties, such that labour shed from the manufacturing sector, because of falling output or rising productivity will not be reabsorbed into the service sector. Most developing economies have experienced this type of deindustrialisation as a result of the implementation of various economic reforms.

In analyses that include both developed and developing countries, (Palma 2005; 2008) identified four sources of deindustrialisation. First, an inverted-U relationship between manufacturing employment and income per capita, referring to the decline in the share of manufacturing as economies mature. Second, a declining relationship over time between income per capita and manufacturing employment. Third, changes in the level of income per capita at which the share of manufacturing employment is expected to decline (i.e. changes in the turning point of the income per capita—manufacturing employment regression). Fourth, Palma suggests that Dutch Disease could be considered as an additional form of deindustrialisation. This refers to an additional degree of deindustrialisation in cases where a country discovered significant natural resources, developed export finance or tourism, or as a result of policy liberalisation in middle-income countries.

However, the recent trend towards de-industrialisation in most African countries, Nigeria and Ghana, inclusive, has been attributed to the implementation of various
market-driven economic reform programmes. Critics of the programmes point to an anti-industrial bias in the policy package (Adejugbe, 1995, Stein, 1992). The policy package included: trade liberalisation; depreciation of currency; reduction in government expenditure; removal of government subsidies; and increase in interest rate. Such policies, they argued, not only cause industrial production to stagnate or decline in the short run, but also erode an important part of the industrial base for future growth. In other words, the economic reform has been responsible for de-industrialisation in Africa.

The World Bank (1994) admits that because of the paucity of data, it might be difficult to conclude whether economic reform has contributed to de-industrialisation in Africa. However, with the available data at her disposal from national accounts and from survey of manufacturing firms, the Bank has gone further to fault the hypothesis that market reforms have led to de-industrialisation in Africa. The Bank has argued, that the picture portrayed in Ghana, the country with the most extensive adjustment, is not one of stagnation and de-industrialisation, instead, it shows much activity, particularly among smaller enterprises, not included in official statistics. According to its survey, aggregate employment and output have been increasing at about 2 percent a year for a sample of manufacturing firms in four sectors representing about 80 percent of manufacturing employment – food processing, metal working, woodworking and textile and garment manufacturing. While one cannot doubt the authenticity of the data, it must be admitted that Food processing, Metal working, Wood working and Textile and Garment manufacturing being mostly informal sector activities not normally covered by official statistics remain the temporary abode for retrenched workers from the formal sector. However, because of the poor or low level of production including traditional technologies within the informal sector mostly cottage and small-scale enterprises their efficiency and productivity remain very low in comparison with the modern sector establishment. The recent emergence of the multinational enterprises like PZ, and Unilever Plc in the detergent industry has confirmed the superiority of the large firm over the small and the indigenous firm.

Jallian, Tribe and Weiss, (2000) survey on the state of industry in Sub-Saharan Africa confirmed that in all, the contributions of manufacturing to GDP remained very low and in most cases less than 10%. Plant capacity utilisation hovered around 25 to 30 percent. The authors, therefore, focused on the challenge for economic policy to find ways of reversing the trend.

Despite the conditions favouring manufacturing employment in less developed countries, Brady et al (2008) admit that Latin America has surprisingly experienced
deindustrialisation in the past few decades. The average manufacturing share of employment has declined since about 1985, and quite substantially since the mid-1990s. Benefiting from recently available comparable data on manufacturing employment from 1980 through 2006, the authors employed fixed effects models and a panel dataset of 20 Latin American countries to explain this trend. In particular, they considered three theoretical expositions namely, productivity/comparative advantage, institutionalism, and dependency/world systems. The results of the analyses demonstrated that model of institutional and a dependency/world-systems variable effectively explains the trend. In particular, the deindustrialisation of Latin America has been mainly driven by the negative effects of (in order of magnitude) the Mercosur trade agreement, mineral and ore exports, the duration of the current political regime, military spending, and inward foreign direct investment flows. This conclusion seems to corroborate the argument of Mkandawire (1988) that the macroeconomic reform programmes in African countries, have engendered de-industrialisation.

In explaining the causes of deindustrialisation in developed countries, Saeger (1997) finds evidence that imports from the South contributed to lower manufacturing employment in 23 OECD countries between 1970 and 1990. Rowthorn and Ramaswamy (1997) on the other hand, find that deindustrialisation in 18 OECD countries between 1963 and 1994 was primarily explained by the systematically higher productivity growth in manufacturing than in services. They argued that deindustrialisation was a natural result of industrial dynamism in advanced economies. In the recent study on 23 OECD countries over the period 1963 – 2002, Rowthorn and Coutts (2004) find that trade with less developed economies contributed significantly to deindustrialisation in the North, although domestic factors such as productivity growth and shifting patterns of demand were even more important. Alderson (1999) finds an outflow of direct investment, as well as import penetration from the South, to have contributed to deindustrialisation in OECD countries between 1968 and 1992. Kucera and Milberg (2003) attribute deindustrialisation in ten OECD countries between the late 1970s and the mid-1990s primarily to North-South trade.

While both developed and less developed countries have experienced de-industrialisation, the level of income when de-industrialisation occurred in less developed countries is far less than the scenario represented in developed countries. Consequently, de-industrialisation in less developed countries has been described as a premature de-industrialisation. Whatever form it takes, deindustrialisation is closely associated with the pattern of industrial structure, hence, the theoretical underpinning of the concept is discussed in the subsequent section.
Theoretical Framework
The theoretical framework of this paper is anchored on the work of Rowthorn and Wells (1987) and the extension and modification by Mickiewicz and Zalewska (2002). Real output and labour productivities in agriculture, industrial and service sectors are given as:

\[ Y = y_a + y_i + y_s \]  
\[ y_a = y_0e^{\lambda t} \]  \[ y_i = y_0e^{\lambda t} \]  \[ y_s = y_0e^{\lambda t} \]

Subscripts \( a, i \) and \( s \) denotes agriculture, industry and service sectors respectively. The level of productivity at the beginning of the development path denoted by \( y_0 \) is greater than zero and the accumulated physical and human capital \( (k) \) and the index of uneven productivity growth among sector \( (\lambda) \) are also greater than zero respectively.

Aggregate employment \( (L) \) in the economy is given by:

\[ L = L_a + L_i + L_s = fN \]

Where \( N \) represents the total population and \( f \) is the employment rate defined as the percentage of total population. This thus implies that \( 0 < f < 1 \).

Consumption of the agricultural product, food, per head of population is fixed and output in the sector is proportional to the size of population. Therefore, agricultural output is given by:

\[ Y_a = bL \]

where \( b \) is a constant. The output in the service sector is a constant fraction of real output and is given by:

\[ Y_s = cY \]

Output per worker in each of the sectors is given as:

\[ y_a = \frac{Y_a}{L_a} \]  \[ y_i = \frac{Y_i}{L_i} \]
From Equations I and VI (a - c), it can be shown that:

\[ L = \frac{Y}{y_0} \left[ ce^{-ak} + (1 - c)e^{-\lambda ak} \right] \]

The above equation implies that:

\[ y = \frac{y_0 e^{ak}}{c + (1 - c)e^{-\alpha(\lambda - 1)k}} \]

\[ = c + (1 - c)e^{-\alpha(\lambda - 1)k} \]

where \( y = \frac{Y}{L} \) is the average labour productivity in the economy as a whole and since \( \alpha > 0 \) and \( \lambda > 0 \), it follows therefore that:

\[ \frac{y}{y_s} \rightarrow \frac{1}{c} \]

as \( t \) tends towards infinity. This implies that average productivity growth will eventually decline to the rate of productivity growth achieved in the service sector. Denoted by \( P \), employment share of the total labour force for each of the sector is given by:

\[ p_a = \frac{L_a}{L} \]

\[ p_i = \frac{L_i}{L} \]

\[ p_s = \frac{L_s}{L} \]

It can be shown from equation X (a & c) that

\[ p_a = \frac{b}{y_0} e^{-\lambda ak} \]
The share of industrial employment is given by:

\[ P_i = 1 - P_t - P_s \]

Therefore,

\[ 1 - \frac{b \lambda \kappa}{Y_0} = \frac{c}{c + (1 - C)e^{-(\lambda - 1)\alpha k}} \]

It is clear from the last equation above that as \( t \) tends to infinity, \( P_a \rightarrow 0; P_i \rightarrow 0 \), and \( P_s \rightarrow 1 \).

In the case of agriculture and service sectors, convergence to the final limit is uniform. That is, the share of agriculture in total employment falls steadily to zero whilst that of services rises steadily to one. However, in the case of the industrial sector, the share of employment first rises then later falls. At the initial stage of economic development, the bulk of the labour force still works on land and the migration of workers from this sector outweighs any expansion that might be witnessed in the service sectors, with the consequential increase in industrial sector’s share of employment. In other words, as development proceeds, the balance changes, the agricultural sector keeps declining as employer of labour, whilst the service sector continues to expand and absorb additional workforce. Eventually, at a point the shift into services sector by labour exceeds the exit from agriculture sector and at this point, industry’s employment starts to fall (Rowthorn and Rawaswamy, 1997).

**Model Specification**

The deindustrialisation experienced in any economy is probably the partial result of a mix of positive and negative factors that have varied across time and space. When testing the link between economic reforms and de-industrialisation in this study, alternative sources of deindustrialisation are controlled for and was based on the baseline model suggested by Rowthorn and Wells (1987:31) and modified by Alderson (1999: 707) as:

\[ \text{ManEmp} = f(\text{RGDPpk}, \text{Unemp}, \text{NetExp}) \]
However, the above model is modified and extended to capture economic reform variables which include; real interest rate (Intr), exchange rate (Exch) and net foreign investment per capita (Inv) in the economy. These variables are included in the model to examine the effect of the economic reforms on deindustrialisation. The specific model to be estimated is therefore given as:

\[
\text{ManEmp}_t = \alpha + \beta_1 \text{RGDPpk}_t + \beta_2 \text{RGDPpk}^2_t + \beta_3 \text{NetExp}_t + \beta_4 \text{Intr}_t + \beta_5 \text{Exch}_t + \beta_6 \text{Inv}_t + \mu_t
\]

Where ManEmp represents manufacturing sector employment. The inclusion of the RGDP and its squared value in the model is to evaluate the initial and subsequent impact on manufacturing employment of growth in the economy. The share of manufacturing sector employment is expected to first rise, then after a certain point, starts to fall (Rowthorn and Wells, 1987).

The selected scope of this study is the period from 1990 to 2010\(^2\). The start period was selected to accommodate the differences in the period the structural adjustment programme was initiated and implemented by the two countries. Ordinary least squares regression analysis technique is carried out independently for the two countries based on the above specified model. The result for the two countries is thereafter compared to evaluate how economic reforms variables influence deindustrialisation in Nigeria and Ghana.

**Data Analysis**

This section uses regression analysis to quantify the impact of various factors, as spelled out in the previous section, on the share of manufacturing employment for both Ghana and Nigeria.

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\(^2\) The annual data were transformed into bi-annual series using Eviews to increase the number of periods from 21 to 42.
Economic Reforms and De-Industrialisation:...

<table>
<thead>
<tr>
<th>Variables</th>
<th>Nigeria</th>
<th>Ghana</th>
</tr>
</thead>
<tbody>
<tr>
<td>Constant</td>
<td>-3.4198</td>
<td>-4.1776</td>
</tr>
<tr>
<td></td>
<td>(7.9431)</td>
<td>(16.7608)</td>
</tr>
<tr>
<td>Real GDP per capita</td>
<td>0.0225</td>
<td>0.0384</td>
</tr>
<tr>
<td></td>
<td>(0.0361)</td>
<td>(0.0690)</td>
</tr>
<tr>
<td>Real GDP per capita squared</td>
<td>-0.0001</td>
<td>-0.0003</td>
</tr>
<tr>
<td></td>
<td>(0.0004)</td>
<td>(0.0006)</td>
</tr>
<tr>
<td>Net Exports/GDP</td>
<td>0.0111</td>
<td>-0.0065</td>
</tr>
<tr>
<td></td>
<td>(0.0120)</td>
<td>(0.0539)</td>
</tr>
<tr>
<td>Net Foreign Investment/GDP</td>
<td>-0.2291*</td>
<td>-0.1956</td>
</tr>
<tr>
<td></td>
<td>(0.0607)</td>
<td>(0.1529)</td>
</tr>
<tr>
<td>Interest Rate</td>
<td>0.1281*</td>
<td>0.1707</td>
</tr>
<tr>
<td></td>
<td>(0.0007)</td>
<td>(0.0298)*</td>
</tr>
<tr>
<td>Exchange Rate</td>
<td>-0.0154*</td>
<td>2.5633</td>
</tr>
<tr>
<td></td>
<td>(0.0026)</td>
<td>(1.8210)</td>
</tr>
</tbody>
</table>

| R-Squared    | 0.6629 | 0.6693 |
| F-Stat.      | 11.4702* | 11.8045* |
| No of Observations | 42    | 42     |

Standard errors in parenthesis
* and ** signifies statistical significance at 5% and 10% level respectively

The estimated regression result based on the specified model for the two countries is presented in the table 1 above. As earlier discussed, shifts in the employment structures could result from the adjustment process initiated by the implementation of market reforms. However, the efficiency of this adjustment on structure of employment depends on the type and quality of the reforms implemented. If the reform is well implemented, the resultant impact should be positive on the structure of employment in the concerned sector otherwise the reverse is the case.

The estimated coefficients for the two measures of level of economic development, RGDP and RGDP squared, in the case of Nigeria are correctly signed in line with the a priori expectation, that is positive and negative respectively, thus implying that the manufacturing sector share of employment first rises then subsequently falls. Similar to what was observed for Nigeria, the estimated coefficients for the two measures of level of economic development in the case of Ghana that is RGDP and RGDP squared, are correctly signed in line with the a priori expectation. This also implies that manufacturing sector share of employment first rises then subsequently falls in Ghana. Albeit, the estimated coefficients for the two variables in both countries are not statistically significant. These non-significant coefficients indicate that the growth witnessed in both countries to the extent that they have contributed positively.
to employment, has not significantly manifested in employment generation in the industrial sector.

The key variables of economic reform included in the model, that is, interest rate and exchange rate, were used to test the argument that market reforms in Sub-Saharan Africa (unlike their counterpart in Asia and some Latin American countries) has been a major cause of the region’s deindustrialisation. To start with, the relationship between exchange rate and manufacturing share of employment in Nigeria reports a negative and significant relationship. The implication of this result is that the switch by the country from fixed exchange rate to flexible exchange rate policy by the introduction of the market reforms has complicated the problems of manufacturing sector due to high unstable exchange rate.

Consistent with the observation on the relationship between exchange rate and manufacturing sector employment in Nigeria, interest rate also exhibits a negative relationship with employment in the manufacturing sector. This result could not be far-fetched as the manufacturing sector is seen to be closely linked with the external sector and in addition to this; high exchange rate coupled with high interest rate has led to the upsurge in the cost of production (Isola, 2005).

Furthermore, the result shows that exchange rate has a positive and significant relationship with the manufacturing sector employment in Ghana. This implies also that with the shift from fixed to flexible exchange rate regimes in Ghana, its impact has been positive on the employment generation of the industrial sector. Thus, reflecting positive gains from economic reform. The positive performance of the industrial sector in Ghana in the post-reform era could also be explained partly with the massive relocation of many industries from Nigeria to the country.

A cursory glance at the other variables estimated in the model such as net export to GDP and foreign investment to GDP reports non-significant results for Nigeria. These results indicate that despite the arguments put forward by the proponents of market reforms, in terms of improved overall economic and sectoral performance, its adoption in Nigeria has not significantly reflected in the employment of the manufacturing sector of the economy. However, the simultaneous significance of all the explanatory variables of each of the models shows that they are jointly significant.

The result of the proxies for the impact of international economy on the sectoral employment of Ghana shows alternative results. There is a negative relationship between net manufactured exports to GDP on the manufacturing sector employment while the impact of net foreign investment in positive. However, the results are not
Conclusion
This paper has examined deindustrialisation in Nigeria and Ghana within the context of the various economic reforms embarked upon by the two countries in the last few decades in an attempt to evaluate the efficacy of the reforms. The results of the study have revealed that, economic reforms have negatively impacted on the industrial sector in Nigeria while the reverse is the case for Ghana. As a panacea to ameliorate the pathetic situation of the industrial sector in Nigeria, the issue of infrastructure decay, particularly the electricity supply should be addressed. This problem has explained why many multinational companies divested from Nigeria to other West African countries, like Ghana. In this regard, Nigeria should take a cue from Ghana that has been able to provide relatively stable electricity supply. What is needed in the power sector is good governance. In addition, there is need for Nigerians to patronise locally made products. The textile industry in Nigeria, for instance, has almost been wiped out partly as a result of low patronage. The study seems to confirm that economic reform, in whatever form it takes must be rooted in strong institutions.

References
Nigeria's Industrial Development...


APPENDIX

Fig. 4 captures the changing structure of employment during an ideal economic development. Initially, agriculture comes as the mainstay of the economy. But as income per capita rises, agriculture loses its primacy, giving way first to a rise in the industrial sector, then to a rise in the service sector.

![Graph showing the changing structure of employment during economic development](image)

**Fig 4: The Changing Structure of Employment during Economic Development**

**Source:** Adapted from World Bank (2014)

Dependent Variable: NGA_MANEMP

Method: Least Squares

Date: 07/30/15  Time: 15:43

Sample: 1990S1 2010S2

Included observations: 42

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
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<td>NGA_RGDP^2</td>
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</table>
### Economic Reforms and De-Industrialisation:

- \( R^2 \): 0.662878
- Adjusted \( R^2 \): 0.605086
- S.E. of regression: 0.518588
- Sum squared resid: 9.412690
- Log likelihood: -28.18759
- F-statistic: 11.47002
- Prob(F-statistic): 0.000000

---

### Regression Results

**Dependent Variable:** GHA_MANEMP  
**Method:** Least Squares  
**Date:** 07/30/15  
**Time:** 15:45  
**Sample:** 1990S1 2010S2  
**Included observations:** 42

<table>
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<tr>
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<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
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| R-squared        | 0.669272    | Mean dependent var | 12.91286  |
| Adjusted R-squared | 0.612576   | S.D. dependent var | 1.881816  |
| S.E. of regression | 1.171306   | Akaike info criterion | 3.305127  |
| Sum squared resid | 48.01851   | Schwarz criterion | 3.594739  |
| Log likelihood   | -62.40767   | Hannan-Quinn criter. | 3.411281  |
| F-statistic      | 11.80454    | Durbin-Watson stat | 0.665887  |
| Prob(F-statistic)| 0.000000    |                   |          |
This book is a compendium of essays in honour of Michael O. Adejugbe, the renowned Professor of Industrial Economics and former Head, Department of Economics as well as Dean, Faculty of Social Sciences, University of Lagos, Nigeria.

It provides very useful analytical and empirical insights into Nigeria's industrial development and the resultant corporate governance and public policy in this regard. The quest for the growth of the country's industrial sector has been in the front burner of government policy since independence with various efforts and policy guidelines rolled out over the years. The book articulates all these, both from the historical perspective as well as the in-depth analysis of various aspects of Nigeria's industrialization efforts. It also proffers solution on the way forward, particularly in this era of green industrialisation. The 36 chapters in the book address these issues as well as propose public policy measures to enhance the growth of the industrial sector as well as macroeconomic stability in the country. The book is divided into five parts. The first part is the introduction followed by part two which contains papers on industrial development. Part three focuses on public policy and industrial growth in Nigeria while part four addresses issues on the macro economy and industrial corporate governance. Finally, part five contains papers on infrastructure and other development issues, as they relate to industrialisation.