The Role of Social and Economic Infrastructure in Manufacturing Sector Performance in Nigeria

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12 December 2016

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Abstract
This study examined the role of economic and social infrastructure in manufacturing sector performance in Nigeria. The main concern of the study was to ascertain the degree of impact of economic and social infrastructure variables on manufacturing sector performances in Nigeria and to know if inflation and lending rates are responsible for the depression in the manufacturing sector. Government expenditures on capital, education and health, as well as electricity generation and consumption, and teledensity, inflation rate and prime lending rate were considered variables of analytical relevance in the paper. The results showed that teledensity had positive impact on manufacturing performance in Nigeria. Also, growth of government capital expenditure and growth of government expenditure on education positively and significantly enhanced the manufacturing value added while growth of government expenditure on health, electricity generation, electricity consumption, inflation rate and prime lending rate had insignificant negative effects on manufacturing value added. Government was therefore encouraged to improve the country's industrial environment and reduce wasteful spending in government.
Keywords: Manufacturing; Social Infrastructure; Economic Infrastructure; Inflation.
JEL Classification: C32; H54; H55; L60

1. INTRODUCTION

Infrastructures are basic essential services that should be put in place to enable development to occur (Zhurauskaya, 2008). Manufacturing, on the other hand, is the transformation of raw materials into finished or semi-finished goods which satisfies the needs and wants of the final consumers (Tybout and Westbrook, 2001). It is also used to indicate when production activities take place in the economy. Economic infrastructure has played a vital role in the performance of the economy. If these facilities are not available, manufacturing sector would not function well and thus decrease the performance of the manufacturing sector which will also reduce its quota/contribution to GDP of Nigeria's economy.

The focus on economic development has shifted over the years from one sector of the economy to the other. The manufacturing sector is usually looked upon because of the large knowledge of its great contribution to economic development. Studies like Tun Wai and Wong (1982), Pagoulatos and Sorensen (2006), Page (2004) and Pack (2008) have shown several reasons including access to finance, infrastructural limitations, regulatory constraints, dependence on imported raw materials to explain differences of the contributions of

manufacturing sector to GDP. The foremost of the barriers are lack of infrastructure and inadequate finance. This indeed has a great consequence on the performance of manufacturing sector. A study conducted by Ogbonnaya (2010) demonstrated empirically that no matter how novel the policies or incentives to drive the industrial sector are, if the infrastructural problems are not fixed, the policy objective of accelerating the growth of the industrial sector may not be realised.

Infrastructure is a great tool needed by manufacturing sector in order to achieve its said goals and objectives. Social infrastructure is a subset of infrastructure sector and typically includes assets that accommodate social services (Havrylyshyn, 2000; Carlsson, 2002). Examples of social infrastructure assets are health (medical facilities, ancillary infrastructure e.g. offices, car parks, training facilities), education (schools, tertiary facilities, hostels), housing, civic and utilities, corrections and justice. On the other hand, economic infrastructure supports economic activity and is often characterised by user pays or demand based revenue streams (such as tolls on toll roads) and includes five sectors namely electricity, banking, irrigation, transport, communications, water supply and sewerage (Ogbole *et al,* 2011). If there is increase in the supply of infrastructure, performance of the sector will increase and foster economic growth and development. Evidence from a number of countries and data has shown that infrastructure services have helped improved economic growth and reduced poverty rate (Moshi and Kilindo, 1999; Cavallo and Daude 2008). Studies (like Mjema, 1996; Bain, 2004; Chenery, 2005; Bhagwati, 2008) also show that with manufacturing sector been active there could be an increase in income, which would lead to a surplus that in turn would stimulate economic development.

The current level of infrastructure deficit in Nigeria has been identified by Sanusi (2012) as the major constraint towards achieving the nation's vision of becoming one of the 20 largest economies by 2020. The provision of economic infrastructure can expand the productive capacity of the economy by increasing the quality and quantity of such infrastructure. Nigeria is replete with several cases of inadequate infrastructure. These includes irregular supply of electricity, shortage of piped water, fuel scarcity and bad roads. The current state of infrastructural facilities has had a very negative impact on manufacturing sector such as low production of goods and services due to irregular supply of electricity, good water system, bad roads and also poor communication system which altogether when seen has depleted economic growth and development. It has even led to some manufacturing industries winding up, relocating to other countries or regions, and hindering foreign investors from investing in the economy.

The industrialisation of the Nigerian economy remains a policy objective of the government. The favourable policy stance of the government towards the manufacturing sector might have been informed by the obviously positive role of manufacturing in the industrialisation of the economy. The various governments of Nigeria have realised the role of infrastructural development in promoting the productivity of the sector. The index of manufacturing production, estimated at 108.5 percent (1990=100) declined by 1.2 per cent in 2014, the average capacity utilisation in the sub-sector however, increased slightly from 57.9 per cent in 2013 to 59.5 per cent in 2014 (CBN, 2015). One of the possible challenges affecting the performance of the sector remains poor infrastructure. Besides, the manufacturing sector

performed poorly in terms of output when compared with agriculture, oil and gas and the telecommunications sector. Manufacturing has declined from the second largest subsector in terms of output and contribution to gross domestic product (GDP) to the eighth largest and constituted, on the average, about 8 per cent of the gross domestic product between 2010 and 2014 and contributed an average of 38 per cent to the industrial output, between 2010 and 2014 (CBN, 2014). Thus, using any index the Nigerian manufacturing endeavour is still very weak and vulnerable compared to petroleum, agriculture and mining.

The structure of the manufacturing sub-sector is also a source of worry. The production of consumer durables is still very low, though comparatively larger than the production of capital goods such as tools, equipment, machinery and spare parts. The structure is further rendered ineffective by the failure of the large-scale core industrial project, such as paper mills, iron and steel mills, petroleum refineries and petro chemical and cement industries, with consequences on the sector and the economy. For instance, the structure determines the level of capital goods imported into the sector and into the rest of the economy. This also determines the ability of the entire economy to absorb external shocks. It is in recognition of this that government introduces several packages of infrastructural incentives to boost investment in infrastructure as a means of boosting the impact of the sector on the nation's industrialisation plan. Against the background that in the long run, the much-desired industrial breakthrough may depend on the level of investment in infrastructure and performance of the manufacturing sector, this study examines the role of economic and social infrastructure on the performance of manufacturing sector in Nigeria.

To this end, the study attempts to determine the effect of social infrastructures on Nigeria's manufacturing sector and also to find out the extent of the contribution of economic infrastructure in enhancing the performance of Nigeria's manufacturing sector. This study becomes very important considering the fact that existing studies have always linked economic infrastructure to the performance of the manufacturing sector thereby often neglecting the role social infrastructure (such as knowledge and skills as well as experience) plays in enhancing the performance of the manufacturing sector. This present study extends the frontiers of knowledge by including social infrastructure into the model.

2.1 LITERATURE REVIEW

In this section, we review relevant empirical works and their evidence on the relationship between infrastructural development and manufacturing performance focusing on developed and developing economies. Ijaiya and Akanbi (2009) empirically analysed the long run effect of infrastructure on industrialisation in Nigeria using the error correction mechanism. The model used a non-linear production function of Cobb-Douglas to determine the influence of infrastructure on industrial development in Nigeria and found that long-run relationship exists between infrastructure and industrialisation. It also found that transportation converges faster than any other facility, and that communication facilities and electricity supply diverged from the long-run equilibrium position, thus negating the initial apriori expectation. Adenikinju (1998) examined the impact of government investment on manufacturing performance in Nigeria. He used two indicators, government investment in social infrastructure and economic infrastructure, as priorities for government investment, while manufacturing

performance is measured by the efficiency of production total factor productivity. However, the findings show mixed results. While investment in social infrastructure seems to have strong position effects on manufacturing productivity, investment in economic infrastructure has a negative effect. The finding in respect of the government expenditure on economic infrastructure supports earlier studies by De Melo and Urata (2004) which reported a negative relationship between public spending on economic infrastructure and economic growth. Adenikinju (1998) suggested that reductions in public investment, especially in the areas of wealth and education, may reduce long-run growth trend in manufacturing productivity. The study found that government expenditure on economic infrastructure has a retarding effect on manufacturing productivity.

Chete and Akpokodje (1997) examined the possibility of public investment influencing private investment in Nigeria and observed that public investment crowds in private investment in the country. Busari and Olaniyan (1998) conducted a similar study covering a period of 1970 to 1994. They argued, through a bivariate framework, that inflation uncertainty as well as fiscal deficit uncertainty negatively impacted private investment decision. A weak negative relationship was also confirmed between exchange rate uncertainty and private investment in Nigeria. To further determine this relationship, Ekpo (1999) carried out a study on the relationship between private investment and public investment in order to determine the influence that different classes of public spending exerts on private investment. It was observed in the study that capital expenditure on agriculture has positively influence on investment spending in Nigeria, while capital spending on health and education positively and significantly impacted private investment.

Similarly, Bamidele and Englana (1998) researched into the nexus between private investment behaviour and macroeconomic environment in Nigeria and came up with the findings that government policy reversals, poor infrastructural facilities and political instability are responsible for the high cost of running business in the country. The study affirmed that macroeconomic stability, export diversification, transparency, reliable and efficient infrastructure are necessary factors that can enhance the growth of Nigeria. Akpan (1998) explored the various fiscal incentives adopted by the Nigerian government to stimulate investment in the manufacturing sector, and the factors hindering the achievement of the objectives. He pointed out that fiscal incentives can be more efficient and effective in increasing investment in the manufacturing sector's production activities. He found that the problems that curtail the chances of policy success are both economic and socio-political. For instance, the infrastructural base of the Nigerian economy is very inefficient, thus leading to high cost of production with discouraging impacts on the manufacturing investment. Besides, there is a high prevalence of policy conflicts and inconsistency, reflected in unguarded deregulation of interest and exchange rates.

Schmidt-Hebbel and Muller (1991) looked into the causes of private investment decline in Morocco and also attributed such trend to policy inconsistency in the African country. It therefore called for foreign debt policy consistency, fiscal stabilization, increased public sector spending on infrastructure investment as well as a reform of investment codes in the country to boost private investment and economic growth. Helpman (1981) studied 123 non-OCED countries and found that institutional variables like ideology, political business cycles, political cohesion and political stability are less important in explaining public capital accumulation in third world countries. The study however confirmed that public and private investments, as well as foreign aid, provide significant justification for public capital

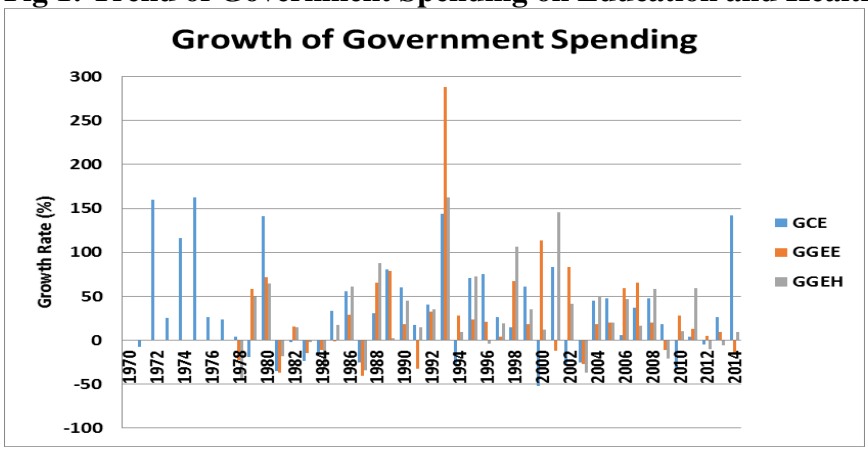
spending. Serven (1996) posits that capital for public infrastructure projects crowds in private capital in the long-run and that other types of public and private capital have negative effects. The study also confirmed that public investment crowds out private investment in the short-run.

Iwayemi (1988) explored the impact of energy on Nigeria's economy by arguing for importance of energy sector in the socio-economic development of the country. In the study, it was confirmed that effective energy demand and increased energy supply enhanced income and standard of living in Nigeria. In the same vein, Udah (2010) focussed on the effect of public capital on productivity gains in Nigeria. It was observed that public capital positively and significantly impacted on productivity, while social capital has negative impact on productivity gains. Finally, Mojekwu and Iwuji (2012) employed time series analysis to model the factors affecting capacity utilisation decision in Nigeria. The model used for the study takes capacity utilisation as the dependent variable while electricity generated in megawatts, inflation and interest rate are independent variables. The result shows that power supply positively and significantly enhanced capacity utilisation while interest rate and inflation rate negatively impacted capacity utilisation in the country.

2.2 STYLIZED FACTS

In figure 1, we examine the growth of government capital spending, growth of government expenditure on education and health in Nigeria. The growth in government total budget on education and health is used as a proxy for the supply of infrastructure on education and health in Nigeria. The trend is considered from 1970 to 2014. Available data show that government commitments to education and health are very low in Nigeria. The growth of government expenditure on education and health indicate that the sectors are not well funded. The consequence of which is poor quality and unhealthy labour force and low income. These are illustrated in figures 1 to 3.

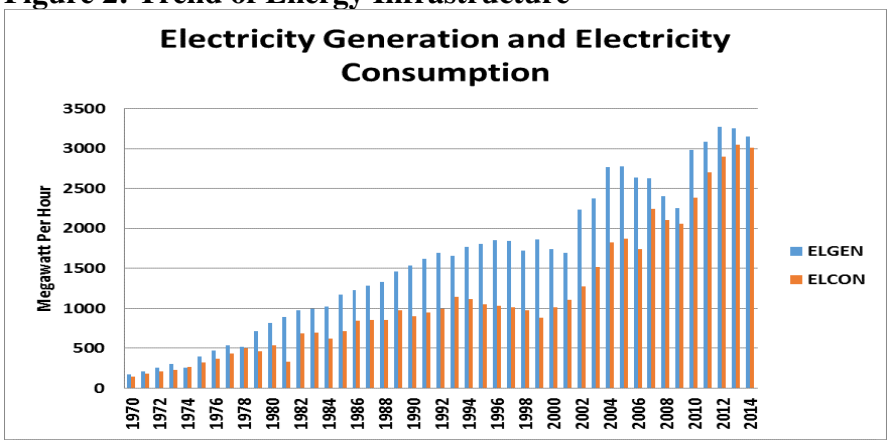
Fig 1: Trend of Government Spending on Education and Health



Source: Authors' Computation (2016)

The commitment of government to improving energy infrastructure in terms of electricity generation and consumption is very poor (see figure 2). Though recent privatization policy in the sector showed improvements as electricity consumption increased significantly in 2013 and 2014 crossing the 3,000 mw/hr.

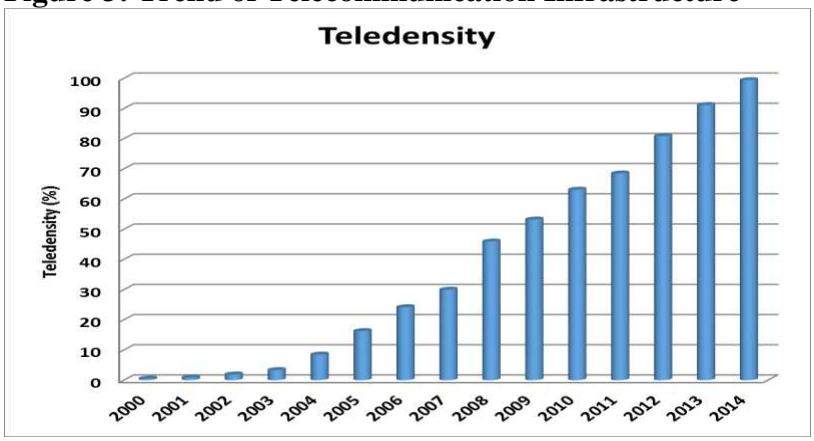
Figure 2: Trend of Energy Infrastructure



Source: Authors' Computation (2016)

In figure 3, the trend of telecommunication infrastructure shows that the development of telecommunication received a boost with the advent of Global System Mobile during 1999. Before then, the number of line available to the Nigerian population was below 1 percent. That is, less than 1 percent of Nigerian has connected line before the introduction of GSM. With the advent of MTN, GLO and others, the number of lines has increased drastically from less than 1 percent in 1999 to about 30 percent in 2007. The trend continues to rise ever since. As at December 2014, the level of teledensity in the communication industry is estimated at 99.39 percent meaning that GSM is accessible to almost everyone in Nigeria.

Figure 3: Trend of Telecommunication Infrastructure



Source: Authors' Computation (2016)

3. RESEARCH METHODOLOGY

According to Koutsoyiannis (1997: 12), specification of a model is usually based on econometric model, theory or any other information relating to the specification being studied. Model specification involves the expression of a relationship into precise mathematical forms. Hence, the functional form of this relationship will be based on a linear equation model. The model however includes manufacturing value added (MVD) as the dependent variable and growth in government capital expenditure (GCE), growth of government expenditure on education (GGEE), growth of government expenditure on health

(GGEH), electricity generated (ELGEN), electricity consumption (ELCON), teledensity (TD), inflation rate (INF) and prime lending rate (PLR) as the independent variables. Functionally, the relationship can be stated as:

MVD = f (GCE, GGEE, GGEH, ELGEN, ELCON, TD, INF, PLR) (1)

where f depicts functional or dependency relationship.

Explicitly, the econometric model below is specified from the equation of the functional relationship.

$MVD = \&_0 + \&_1 GCE + \&_2 GGEE + \&_3 GGEH + \&_4 ELGEN + \&_5 ELCON + \&_6 TD + \&_7 INF + \&_8 PLR + U_t$ (2)

Where $\&_0$ is the constant term, $\&j$ ($j = 1, 2, 3, \ldots, 8$) are the coefficients to be estimated and evaluated, while U is the stochastic error term. The apriori expectation is that $\&j$ ($j = 1, 2, 3, \ldots, 6$) > 0, and $\&j$ ($j = 7, 8$) < 0.

Analysis in the study is based on secondary data covering the periods 1980 to 2014. Data were obtained from the Central Bank of Nigeria (CBN) Quarterly Reports Annual Statistical Bulletins and Annual Report and Statement of Account, National Bureau of Statistic (NBS), National Electricity Regulatory Commission (NERC) and Nigerian Communication Commission (NCC).

Table 1: Variables and Description

Variables	Description
MVD	Manufacturing value added This is measured by manufacturing value added as a percentage of real gross domestic product.
GCE	Growth of government capital expenditure This is a measure of government capital spending or investment in transportation, water facilities, housing, education, health, sanitation, energy and other utilities.
GGEE	Growth of government expenditure on education This is a measure of government investment in education
GGEH	Growth of government expenditure on health This is a measure of government investment in health
ELGEN	Electricity generation A measure of electricity facilities
ELCON	Electricity consumption A measure of electricity facility consumed
TD	Teledensity This is a measured by the total number of active lines by the population.
INF	Inflation rate This is a measure of macro-economic stability
PLR	Prime lending rate This is a measure of investors cost of funds.

4. RESULTS AND DISCUSSION

4.1 Pre-estimation Tests

Table 2: Result of Unit Root Test

Variable	ADF Test Statistical Value	MacKinnon Critical Value at 1%	MacKinnon Critical Value at 5%	MacKinnon Critical Value at 10%	Order of Integration
MVD	-4.7451	-3.5930	-2.9320	-2.6039	1(1)
GCE	-8.4985	-3.5973	-2.9339	-2.6048	1(1)
GGEE	-6.8069	-3.6353	-2.9499	-2.6133	1(1)
GGEH	-9.6244	-3.6353	-2.9499	-2.6133	1(1)
ELGEN	-4.5751	-3.5930	-2.9320	-2.6039	I(1)
ELCON	-4.8952	-3.5930	-2.9320	-2.6039	1(1)
TD	-5.9046	-3.5973	-2.9339	-2.6048	1(1)
INF	-6.4941	-3.5930	-2.9320	-2.6039	I(1)
PLR	-6.5554	-3.5930	-2.9320	-2.6039	1(1)

Source: Authors' Extraction from Eviews

Table 2 shows that Manufacturing Value Added (MVD), Growth of Government Capital Expenditure on Education (GCE), Growth of Government Expenditure on Education (GGEE), Growth of Government Expenditure on Health (GGEH), Electricity Generation (ELGEN), Electricity Consumption (ELCON), Teledensity (TD), Inflation Rate (INF), and Prime Lending Rate (PLR) are stationary at first-order difference.

Table 3: Cointegration Test Result
Series: MVD GCE GGEE GGEH ELGEN ELCON TD INF PLR

Eigenvalue	Likelihood Ratio	Critical Value 5%	Critical Value 1%	Hypothesized No. of CE(s)
0.887298	318.6573	222.21	234.41	None **
0.849510	242.2520	182.82	196.08	At most 1 **
0.816525	175.9671	146.76	158.49	At most 2 **
0.682336	116.6184	114.90	124.75	At most 3 *
0.508574	76.48175	87.31	96.58	At most 4
0.471462	51.61621	62.99	70.05	At most 5
0.351168	29.29880	42.44	48.45	At most 6
0.190989	14.15846	25.32	30.45	At most 7
0.175176	6.740474	12.25	16.26	At most 8

Source: Authors' Extraction from Eviews

The result of Johansen cointegration test in table 3 show that the residuals, and thus the variables, are cointegrated as there are four cointegrating equations in the model. This necessitates the development of the error correction model for short-term adjustment. Thus, error correction model can be estimated.

Table 4: Short-Run Estimates – Parsimonious Error Correction Model
Dependent Variable: Manufacturing Value Added

Variable	Coefficient	Std. Error	t-Statistic	Prob.
D(GGEE)	0.003214	0.003578	0.898161	0.3770
D(GGEH)	-0.003864	0.004837	-0.798816	0.4314
D(ELGEN)	-0.001534	0.001056	-1.452489	0.1579
D(ELCON)	-0.001366	0.001856	-0.735974	0.4681
D(GCE(-1))	0.008666	0.004325	2.003447	0.0553
D(INF(-1))	-0.003072	0.010901	-0.281839	0.7802
D(PLR(-1))	-0.032953	0.041544	-0.793199	0.4346
D(TD(-2))	0.041232	0.026100	1.579757	0.1258
ECM(-1)	-0.817255	0.178395	-4.460046	0.0000
C	9.551698	0.623696	15.31467	0.0000

R-squared	0.734371	**F-statistic**	9.330701
Adjusted R-squared	0.655666	**Prob(F-statistic)**	0.000004
Durbin-Watson stat	1.954376	**Schwarz criterion**	3.291816

Source: Authors' Computation

From the results in table 4, social and economic infrastructure has not been effective in enhancing manufacturing sector performance in Nigeria. The result shows that the coefficient of the lagged growth in government capital expenditure is positively signed and statistically significant at 5 percent level. The coefficient of growth in government expenditure on education and teledensity are signed as expected. Therefore, they have positive relationships with manufacturing value added in Nigeria. However, growth in government expenditure on health, electricity generation, electricity consumption, inflation rate and prime lending rate have negative impacts on manufacturing performance in Nigeria. Out of all the variables included in the model, only growth in government capital expenditure and electricity generation are statistically significant at 5%. The signs of the estimated coefficients of the variables are in conformity with the a priori expectations except for growth of government expenditure on health, electricity generation and electricity consumption. The positive impact of growth of government capital expenditure, growth of government expenditure on education and teledensity are not unexpected as government capital spending significantly impacts infrastructure development which aids production in the manufacturing sector. Growth of government spending on education has significantly influenced productivity in the manufacturing sector while teledensity has contributed immensely to manufacturing performance.

The negative contribution of electricity generation and electricity consumption indicates poor power supply in the country, which can be attributed to long term corruption and mismanagement in the sector. Corruption in the health sector is a major factor responsible for the negative impact of government expenditure on health. Inflation which is a measure of

macro-economic stability, on the other hand, increases cost of production. Prime lending rate, which is a measure of cost of borrowing, negatively affected the manufacturing sector performance owing to high lending rate. Moreover, the result shows that a percentage change in lagged growth of government capital expenditure, growth of government expenditure on education and teledensity will result in 0.0087, 0.0032 and 0.0412 increase in manufacturing value added (a proxy for manufacturing sector performance) respectively. On the other hand, a unit change in growth of government expenditure on health, electricity generation, electricity consumption, lagged inflation rate and lagged prime lending rate will reduce manufacturing value added by 0.0039, 0.0015, 0.0014, 0.0031 and 0.0330 respectively. The F-value of 9.3307 is significant at 5 per cent level, indicating that the explanatory variables included in the model are important economic and social infrastructure indicators that influence manufacturing sector performance in Nigeria.

The result also shows that the R^2 is 0.7344, which implies that the model explains about 73.4 per cent of the total variations in manufacturing value added. It remained strong even after adjusting for the degree of freedom and stood at 0.6557. To be precise, the adjusted R^2 is 65.6 percent. By implication, this shows that 65.6 percent of the variations in manufacturing value added can be explained by the eight variables taken together while only about 34.4 percent variations is explained by forces outside the model. The error correction term is -0.8173 meaning that approximately 82% is restored to equilibrium in the short-run. The t-statistic value of -4.4600 is also significant. The Durbin-Watson statistic, which is 1.95, falls within the acceptable range in applied research of no autocorrelation. The model is thus free from the problem of serial correlation.

Table 5: Long-Run Estimates
Dependent Variable: Manufacturing Value Added

Variable	Coefficient	Std. Error	t-Statistic	Prob.
GCE	0.006874	0.003809	1.804643	0.0819
GGEE	0.003343	0.003559	0.939354	0.3556
GGEH	-0.003496	0.004771	-0.732877	0.4697
ELGEN	-0.001815	0.000994	-1.826090	0.0785
ELCON	-0.000471	0.001519	-0.309715	0.7591
TD	0.027648	0.021320	1.296776	0.2053
INF	-0.003884	0.010856	-0.357739	0.7232
PLR	-0.039500	0.040926	-0.965135	0.3427
C	9.362419	0.587610	15.93304	0.0000

R-squared	0.726334	**F-statistic**	9.289313
Adjusted R-squared	0.648144	**Prob(F-statistic)**	0.000004
Durbin-Watson stat	1.394086	**Schwarz criterion**	3.282010

Source: Authors' Computation

From the results in table 5, estimates of three coefficients of the independent variables,

namely growth in government capital expenditure, growth in government expenditure on education and teledensity positively impacted manufacturing value added in Nigeria. However, growth in government expenditure on health, electricity generation, electricity consumption, inflation rate and prime lending rate negatively affected manufacturing performance in Nigeria. However, in the model, only growth in government capital expenditure and electricity generation are statistically significant at 5%. The signs of the coefficients of the variables estimated are in conformity with the a priori expectation except for growth of government expenditure on health, electricity generation and electricity consumption. The positive impact of growth of government capital expenditure, growth of government expenditure on education and teledensity are not unexpected as government capital spending significantly impacts infrastructure development which aids production in the manufacturing sector. Growth of government spending on education has significantly influenced productivity in the manufacturing sector while teledensity has contributed immensely to manufacturing performance.

The negative contribution of electricity generation and electricity consumption indicates poor power supply in the country. Poor healthcare facilities manifest as the result of inadequate healthcare funding could have caused the negative impact of government health expenditure on the manufacturing sector. Inflation, on the other hand, increases production cost and increases the risk of uncertainties in manufacturing businesses. The manufacturing sector performance is negatively affected due to high lending rate. The result also shows that a percentage change in growth of government capital expenditure, growth of government expenditure on education and teledensity will result in 0.0069, 0.0033 and 0.0276 increase in manufacturing value added respectively. On the other hand, a unit change in growth of government expenditure on health, electricity generation, electricity consumption, inflation rate and prime lending rate will reduce manufacturing value added by 0.0035, 0.0018, 0.0005, 0.0039 and 0.0395 respectively. The F-value of 9.2893 is significant at 5 per cent level, indicating that the explanatory variables included in the model are important economic and social infrastructure indicators that influence manufacturing sector performance in Nigeria. The result shows that the R^2 is 0.7263, which implies that the model explains about 72.6 per cent of the variations in manufacturing value added (MVD). It remained strong even after adjusting for the degree of freedom and stood at 0.6481. To be precise, the adjusted R^2 is 64.8 percent. By implication, this shows that 64.8 percent of the variations in manufacturing value added can be explained by the eight variables taken together. The remaining 35.2 percent variations can be attributed to other forces outside the model.

The findings corroborate earlier studies (Ijaiya and Akanbi, 2009; Adenikinju and Olofin, 2000; Bamidele and Englana, 1998) on manufacturing in Nigeria and, thus, substantiate that the response of the manufacturing sector to investment incentives is very low due to macroeconomic instability caused by government policy inconsistency. Specifically, studies like Busari and Olaniyan (1998), Mojekwu and Iwuji (2012), Omitogun and Ayinla (2006) and Ndebbio (2004) found that inflation rate and lending rate weakened manufactured output. This present study also attests to that conclusion. However, this present study partially agrees with the findings by Ekpo (1995) and Apkokodje (1998) that government capital expenditure and government expenditure on education exerts positive impacts on private investment in Nigeria.

5. CONCLUSION AND RECOMMENDATIONS

This study has used available data to evaluate the role of economic and social infrastructure on manufacturing sector performance in Nigeria. The major findings emanating from the study have it that economic and Social infrastructure do not contribute significantly to manufacturing sector performance in Nigeria. The relationship between growth of government capital expenditure and manufacturing value added is positive but very low. This can be attributed to high level of corruption and inefficiency in government sector. Growth of government spending on education has a positive but insignificant effect on manufacturing value added. The effect of growth of government expenditure on health on manufacturing value added is negative. Electricity generation and consumption have negative effect on manufacturing sector performance. This implies inefficiency in the country's power sector in the country. Teledensity has a positive impact on manufacturing sector performance. Inflation rate negatively impact on manufacturing sector performance due to its influence on high operating cost of manufacturing companies. Prime lending rate depresses performance of the manufacturing sector.

Owing to the present environmental challenges facing the Nigerian economy and the high cost of running business in the country, a conducive environment needs to be created to energise industrial growth. This can be done through proper channelling of funds to both social and economic infrastructures in order to enhance capacity utilisation in the manufacturing sector. To ensure that this is realised, the current industrial climate must be restructured such that it can promote industrial performance and make the country a hub for least cost industrial production. To this end, government should put in every effort to make the Nigerian industrial environment very conducive and attractive through the provision of adequate infrastructure back-up such as supply of utilities in terms of electricity, water, sewage, telephone services, postal services, security services, custom services, judiciary and health care services. It should also embark on the maintenance of deficient infrastructures and institute a very strong institutional framework for the country. Finally, high lending rate must be addressed by policy makers to ensure that firms have access to credit at a reasonable cost.

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