Global Scientific JOURNALS

GSJ: Volume 7, Issue 1, January 2019, Online: ISSN 2320-9186
www.globalscientificjournal.com

AN INVESTIGATION OF THE CASUAL EFFECT OF SOME SELECTED MANUFACTURING ACTIVITIES ON GOVERNMENT CAPITAL EXPENDITURE IN NIGERIA, 1981 - 2017

Sunday Daniel Dornubari, Aruwei Porwekobowei, Enaruna Dubem Victor

Abstract

This Study investigated the casual effect of some selected manufacturing activities on government capital expenditure, 1981 to 2017. Theoretical studies show that increase GOCEXP would result to MOUP increase but some available findings from empirical works seems to disagree with this position. The objective of this study was to examine the Causal Effect of some selected manufacturing activities on government capital expenditure, captured by oil refining (ORP), cement production (CEP), basic metal, iron and steel (BMIS), electrical and electronics (ELECT), food beverages and tobacco (FBT) in Nigeria. The study used secondary data obtained from Nigeria Bureau of Statistics and the Central Bank of Nigeria; the research work selected Nigeria as its sample and used the Granger-causality to test the Effect of the independent variables (ORP, CEP, BMIS, ELECT and FBT) on the dependent variable (GOCEXP) at the 5% level of significance. The findings amongst others show that dependent variable does granger-cause independent variables but the independent variables does not granger-cause dependent variables. That is a Uni-directional effect. The study concludes that some selected manufacturing activities does not influence government capital expenditure and hence, recommends among others the government should create an enabling environment, develop programmes and policies as well ensure there full implementation as to support the growth of manufacturing activities.

[1]Sunday, Daniel Dornubari

[2]Aruwei, Porwekobowei

[2]Enaruna, Dubem Victor

1Nigeria Maritime University, okerenkoko, Nigeria; email: *sundaydanieldornu@gmail.com*
2Nigeria Maritime University, okerenkoko, Nigeria; email: aruweiporwei@yahoo.com
2Nigeria Maritime University, okerenkoko, Nigeria; email: dubemenaruna@gmail.com

Key word: government capital expenditure, manufacturing activities, manufacturing output, Granger-causality,

1.0 INTRODUCTION

Government expenditure which is equally known as government spending simply refers to the resources government allocates to various activities in order to achieve macro-economic objectives and at the same time satisfy the needs of its citizens. Government expenditure could be in the form of capital and recurrent expenditure. Government expenditure mainly capital expenditure helps in stimulating the growth and expansion of economic activities of both the private and public sectors, and at the same time facilitate the integration of the various manufacturing sector. Agunuwa and Nomuyi (2010) asserted that if capital expenditure is used judiciously, it has the potential of opening up large opportunities like job creation, stimulate investments and thereby have a multiplier effect on the economy. In the same vein, Hall (2010) further opined that the significance of public investment in infrastructure was demonstrated by the damaging effects of the Structural Adjustment Programme (SAP) of the International Monetary Fund (IMF) which insisted a cutback of government capital expenditure and further increase recurrent expenditure.

Industrialization is the main catalyst that drives the pace of structural transformation, diversification and economic development of any nation. Kayode(1989) and Libania(2006) asserted that the manufacturing sector particularly is the heart and engine of the growth of the economy. It is the hub on which industrialization of any nation revolves. Manufacturing sector is one of such drives of industrialization. Dickson (2010) opted that manufacturing sector accounted for significant share of the industrialized sector in developed countries. Activities of the manufacturing sector according to CBN (2017) includes oil refining, cement production, food, beverages and tobacco, textile, apparel and footwear, wood and wood products, chemical and pharmaceutical products, non-metallic products, plastic and rubber products, electrical and electronics, basic metals, iron and steel, motor vehicles and assembly, and other manufacturing. These activities contribute towards building a formidable foundation for the economy; these activities are better harnessed when government expenditure are directed towards its growth and expansion through the provision of better basic, social and economic amenities and policies and programmes in order to accelerate or ameliorate the sector. In Nigeria recurrent expenditure usually exceeded capital expenditure. Specifically, the recurrent expenditure for the periods of 1984-1985, 1987-1995, and 2000-2017 were more than the capital expenditure CBN (2017). Meanwhile the only period where Nigeria experienced a higher growth of capital expenditure to recurrent expenditure were in 1981-1983, 1986, 1996-1999. Despite the current Economic Recovery and Growth Plan that was launched by the federal government of Nigeria the recurrent expenditure is still taking a higher proportion of government expenditure. The study became imperative because of the dwindling and fluctuating nature of government capital expenditure which has continued to impact negatively

on the manufacturing sector thereby reducing the volume of their output. This negative influence stems from the constant fluctuating exchange rates, poor state of economic infrastructure, misappropriation and embezzlement of allocated funds, higher interest rate, poor implementation of government policies and programmes directed towards the manufacturing sector. Although there are studies on the government expenditure on manufacturing output but this paper will be focused on six (6) different activities of the manufacturing sector in order to know how government capital expenditure influence it and the long-run relationship between them. Therefore, the objectives of this paper is to investigate the casual effect of some selected manufacturing activities on government capital expenditure in Nigeria.

2.0 REVIEW OF RELATED LITERATURE

2.1 CONCEPTUAL REVIEW

2.1.1 Manufacturing Activities

Manufacturing activities simply referred to as the transformation of materials and information into goods and services for the satisfaction of human needs. It involves the creation of utility for goods and services. Adebayo (2011) asserted that the manufacturing sector refers to those industries and activities which are involved in the manufacturing and processing of items and indulge in either the creation of new commodities or in value addition. These they do through the creation of utility for the goods and services which are readily available for human consumption. Furthermore, Mbelede (2012) opined that manufacturing sector is involved in the process of adding value to raw materials by turning them into products; which are then being made available for consumption purposes or for further transformation. The final products of the manufacturing sector are either made available for sale to consumers or as intermediate goods (inputs) for production process for the production of further goods and services. According to CBN (2017) the manufacturing activities involve the following: oil refining, cement production, food, beverages and tobacco, textile, apparel and footwear, wood and wood products, chemical and pharmaceutical products, non-metallic products, plastic and rubber products, electrical and electronics, basic metals, iron and steel, motor vehicles and assembly, and other manufacturing.

These activities according to Imoughele & Ismaila, (2014) contribute to the economy as a whole in terms of output of goods and services, provide a means of reducing income disparities (inequalities), develop a pool of skilled and semi-skilled labour for the future industrial growth, improve forward and backward linkages within the value chain and between socially and geographically diverse sectors of the country, offer an excellent breeding ground for entrepreneurial and managerial talent and serve as a source of foreign exchange for the economy.

2.1.2 Government Expenditure

Government expenditure is the outflow of resources from government to the various sectors of the economy (CBN, 2003). Public expenditure has become a veritable tool in the stimulation of economic activities in order to increase the GDP of the country. According to Yelwa, Danlami & Obansa (2014) government expenditure is mainly characterized with utilization of the nation's resources by the government with regards to the rules, regulations and policies that shape the planning, budgeting, forecasting, directing, coordinating, influencing and governing the inflow and outflow of funds in order to maximize the objective of the institution. Government expenditure is mainly directed towards the achievement of some set of macro-economic objectives in the country. The expenditure carried out by the government which are grouped into capital and recurrent expenditure are financed through tax, grants, levies, royalties, borrowings, aids etc.

2.2 THEORETICAL REVIEW

2.2.1 Musgrave and Rostow theory of public expenditure

Musgrave and Rostow opined about the causes of growth in public expenditure. They argued that public expenditure is a prerequisite for economic growth. The public sector initially provides economic infrastructure such as roads, railways, water supply and sanitation. All these economic amenities breeds industrialization which therefore, stimulate economic growth

2.2.2 Bowen's Model of Public Expenditure

Bowen (1943) stated that social goods are not equally available to all voters. According to this theory, since social goods are consumed by all individuals in a community, each of them needs to contribute for the social goods. But as Bowen also pointed out, we must in the case of public goods add different individuals' curves vertically. This is so because the capacity to enjoy the social goods is different for different individuals. Since each of the individuals have different

valuation of the social goods, it is expected of them to contribute different amounts. Thus, Okeke (2014) asserted that the government will have to produce an amount of social good equal to the marginal cost of supplying that good, to be equal to the marginal utilities received by the community.

2.2.3 Wagner's law of increasing public expenditure

Adolf Wagner (1890) states that a cause and effect relationship existed between the growth of economy and relative growth of public sector. He states in the theory that as increase in per capita income and output in industrialized nations lead to increase in the size of public sector as represented by the percentage of public expenditure to gross national product. This simply means that there is direct relationship between the growths of government expenditure mainly on capital expenditure on the manufacturing output of firms as measured by the manufacturing sector's contribution to the GDP of the nation. Increase in capital expenditure will lead to increase in the GDP in the economy.

2.2.4 Peacock and Wiseman Theory of Public Expenditure: Peacock and Wiseman (1967) suggested that the growth in public expenditure does not actually occur in the manner theorized by Wagner. Peacock and Wiseman choose the political propositions instead of the organic state where it is deemed that government like to spend money, people do not like increasing taxation and the population voting for ever-increasing social services. This theory deals with the growth of public expenditure. It emphasizes the recurrence of abnormal structures which cause sizable dumps in public expenditure and revenue. Public expenditure should not be expected to increase in a smooth and continuous manner, but in jerks or a stop-like fashion to accommodate special needs, such as natural disaster, war, epidemics etc (Edame & Eturoma, 2014).

2.3 EMPIRICAL REVIEW

Shantayanan (1996) researched on forty three developing nations in 1996 for a period of 20 years in order to ascertain the nature of the relationship between government expenditure and economic growth in those economies. The econometric tool used for the analysis was the ordinary least square. The findings revealed a positive significant impact of recurrent expenditure on economic growth but a negative relationship between capital expenditure and economic growth in those economies.

Abidemi OI, Logile AI, Olawale AL (2011) studied the case of foreign aid, public expenditure and economic growth in Nigeria, using co integration and error correction mechanism to estimate the variables in the model. The authors asserted that, foreign aid is an important source of funding in most Sub-Sahara Africa, Nigeria inclusive as a means of bridging the gap in resource

arising from poor savings, insufficient proceeds from export and absence of a well effective and efficient tax system. The findings indicated that resources from donor agencies and overall government spending have positive impact on the economy. The implication is that Nigeria must also strive to make her fiscal and public expenditure policies to be both transparent and people friendly.

Emmanuel and Olagbaju (2015) investigated the relationship between government spending and manufacturing sector output in Nigeria from 1970 to 2013. Government expenditure was further disaggregated into capital and recurrent government expenditure with emphasis particularly on the capital expenditure. The variables used were manufacturing sector output, capital and recurrent expenditure, nominal and real Gross Domestic Product (GDP), exchange rate and interest rate. The findings reveals the existence of one co integrating vector at 5% level of significance. Error correction mechanism revealed that government capital and recurrent expenditure has positive and negative relationship with manufacturing sector output in Nigeria respectively. The study therefore recommended that larger percentage of government expenditure in the annual budget should be on capital expenditure vis-à-vis improved implementation of expenditure policies rather than recurrent expenditure which does not really have a significant impact on the manufacturing sector.

Chukwunoso et al (2016) researched on public education investment and manufacturing output in Nigeria from 1970 to 2013. The authors made used manufacturing growth output, public education spending as a percentage of Gross Domestic Product, primary school enrolment rate, Gross Domestic Product per capita, exchange rate and foreign direct investment. The methodology employed in this analysis was the ordinary least square method. They found that all the variables are positively related to manufacturing output growth. The study recommended that the government should target education spending in ways that favour manufacturing industry growth.

Chikelu (2016) studied the impact of government capital expenditure on the manufacturing sector of the Nigerian economy from the period of 1970 to 2012. The author made used of Real Gross Domestic Product, capital expenditure, foreign direct investment, interest rate and exchange rate. He employed the VECM and Granger Causality test and found that foreign direct investment, interest rate, and capital expenditure are significantly related to Real Gross Domestic Product except exchange rate. Also. Real Gross Domestic Product granger cause capital expenditure. The study recommended imperative policy options which he believed that if implemented, there will be tremendous improvements in the manufacturing sector's growth in Nigeria.

Odo et al (2016) researched on the analysis of government expenditure and economic growth in Nigeria from 1980 to 2015 using the Johansen co-integration technique, Error correction mechanism, Pairwise granger causality. The variables used were Real Gross Domestic Product, government capital expenditure, government recurrent expenditure, inflation rate, and

unemployment rate. The Johansen co-integration indicated two co-integrating vectors which depicts a long term relationship between Real Gross Domestic Product and government capital expenditure, government recurrent expenditure, inflation rate, and unemployment rate. The error correction mechanism indicated that both government capital expenditure and unemployment rate has a negative relationship with Real Gross Domestic Product while government recurrent expenditure and inflation rate has positive relationship with Real Gross Domestic Product. The Granger Causality moves in one direction from government capital expenditure to economic growth while government recurrent expenditure moves in opposite direction with economic growth. The authors therefore recommended that government should ensure the full implementation of her minimum wage law across states and private sectors of the economy to take full advantage of the impact of salaries and wages in the performance of the economy

3.0 Data and Methodology

The research design adopted in this paper is the *ex post facto,* and is commonly used where variables for the research are drawn from already concluded events and there is no possibility for the researcher to do any form of data manipulation.

3.1 **Sources and Nature of Data**

This study utilized secondary data obtained from the statistical bulletin of the Central Bank of Nigeria and the National Bureau of Statistics.

3.2 **Model Specification and Validity**

This research work adopts the model of Eze and Ogiji (2013) with slight modifications (for example; using government capital expenditure as the dependent variable while manufacturing output as the independent variable). Also, in order to do a thorough investigation, the independent variable was disaggregated into five activities which are oil refining, cement manufacturing, basic metal iron and steel, electrical and electronics, and food, beverages and tobacco. The model specified for this study is given below:

MOP = f (GEXP, GTR) ……. Eze and Ogiji (2013)

GOCEXP = f (MOUP) …….. 1

GOCEXP = f (ORP, CEP, BMIS, ELECT, FBT) ……..2

$$\sum LOGGOCEXP_t = \beta_{21} + \sum \beta_{22} LOGORP_{1-t} + \sum \beta_{23} LOGCEP_{1-t} + \sum \beta_{24} LOGBMIS_{1-t} + \sum \beta_{25} LOGELECT_{1-t} + \sum \beta_{26} LOGFBT_{1-t} + + U_{tii} \ldots. 3$$

Where: GOCEXP = Government capital expenditure

MOUP = Manufacturing Output

ORP = Oil refining

CEP = Cement production

BMIS = Basic metal, iron and steel

ELECT = Electrical and electronics

FBT = Food, beverage and tobacco

3.5 APRIORI EXPECTATION

The apriori expectation for this study is given below as follows:

Dependent Variable	Independent Variable	Relationship
GOCEXP	MOUP	+
GOCEXP	OR	+
GOCEXP	CEP	+
GOCEXP	BMIS	+
GOCEXP	ELECT	+
GOCEXP	FBT	+

4.0 DATA PRESENTATION AND ANALYSIS

Table 4.1: Government Expenditure and Manufacturing Output

YEAR	GOCEXP	OR	CEP	BMIS	ELECT	FBT
1981	6.57	36.58	190.94	19.08	1.08	986.25
1982	6.42	38.49	223.85	21.54	1.21	1113.22
1983	4.89	27.86	79.27	15.21	0.86	785.9
1984	4.1	27.43	49.85	13.5	0.76	697.63
1985	5.46	39.08	249.27	16.18	0.91	836.04
1986	8.53	19.66	269.46	15.15	0.88	803.52
1987	6.37	28.92	229.33	16.34	0.92	844.5
1988	8.34	33.06	298.88	18.44	1.04	953.01
1989	15.03	43.03	314.58	18.74	1.06	968.7
1990	24.05	42.52	221.11	20.17	1.14	1042.51
1991	28.34	45.33	246.03	22.05	1.24	1139.46
1992	39.76	44.43	250.52	20.98	1.18	1084.4
1993	54.5	44	259.49	20.12	1.13	1039.62
1994	70.92	43.34	236.81	19.93	1.12	1030.26
1995	121.14	46.07	232.32	18.84	1.06	973.6
1996	212.93	51.35	221.35	19.03	1.07	983.33
1997	269.65	50.53	228.08	19.08	1.08	986.28
1998	309.02	45.35	87.79	18.34	1.03	947.82
1999	498.03	47.44	87.51	18.98	1.07	980.99
2000	239.45	46.98	87.13	19.66	1.11	1016.17
2001	438.7	136.78	100.75	20.48	1.15	1058.7
2002	321.38	126	101.83	22.74	1.28	1175.04
2003	241.69	137.96	105.89	24	1.35	1240.83
2004	351.3	151.76	116.48	26.88	1.52	1389.33
2005	519.5	166.93	129.37	29.45	1.66	1522.29
2006	552.39	183.66	144.28	32.2	1.81	1664.29
2007	759.32	202.17	161.66	35.26	1.99	1822.41
2008	960.89	222.39	180.42	38.36	2.16	1982.78
2009	1152.8	237.85	199.97	41.37	2.33	2137.9
2010	883.87	255.16	221.09	44.47	2.51	2298.52
2011	918.55	271	238.2	103.03	4.57	2466.51
2012	874.83	223.52	270.35	124.49	4.53	2628.31
2013	1108.39	344.71	576.45	141.11	4.76	2938.61
2014	783.12	311.38	488.28	163.11	5.07	3104
2015	818.37	200.88	596.17	168.19	5.13	2937.06
2016	634.8	205.97	564.21	169.4	4.72	2752.9
2017	979.5	148.92	551.78	169.68	4.59	2817.56

SOURCE: CBN STATISTICAL BULLETIN 2017

As can be seen from the table above, government capital expenditure vis-à-vis the manufacturing activities has continued to fluctuate. One remarkable insight into this fluctuate is

that the periods with the highest government capital expenditure– 2018 to 2015, then 2017 has witnessed the highest increased in manufacturing activities.

4.2.1 DIAGNOSTIC TEST

The purpose of performing diagnostic test is to ensure that our data and model used in this paper conforms to the basic assumptions of the classical linear regression. This will ensure that the output of this process is not prone to error and is reliable.

4.2.1.1 Test for stationarity

In testing for stationarity, the variables in the model must be stationary at a particular level and the probability-value (p-value) must be significant at that particular level. The stationarity of any variable is attained where the test statistics is most negative and at the same time greater than the critical value at the chosen significance level. For this analysis, the p-value to be used is 5% level of significant for either the rejection or acceptance if there is a unit root.

Table 4.2: Unit Root Test

Variables	ADF Test Statistics	T-CRITICAL AT 5%	P-value	Order of Integration
GOCEXP	-7.9722	-2.948404	0.0000	I(1)
ORP	-6.6225	-2.948404	0.0000	I(1)
CEP	-6.9485	-2.948404	0.0000	I(1)
BMIS	-3.7267	-2.948404	0.0079	I(1)
ELECT	-5.4489	-2.948404	0.0001	I(1)
FBT	-7.8266	-2.954021	0.0000	I(2)

Source: Author's E-view 10.0 Computation

Table 4.2 shows that all the variables are stationary at 5% level of significance in the first order of differentiating except the last variable (FBT) which shows stationarity at the second order of differentiation with positive and significant p-values. The ADF test statistics has most negative than the critical values at 5% level of significance for each of the variable.

4.2.1.2 Test for Serial Correlation – Breusch-Godfrey (BG) Tests

The Breusch-Godfrey serial correlation tests is used to test for the presence or absence of serial correlations in the model with the null hypothesis stating that there is no autocorrelation. This holds if p-value is greater than the chosen level of significance otherwise reject.

Table 4.3: Test for Serial Correlation for GOCEXP and Selected Manufacturing Activities

Breusch-Godfrey Serial Correlation LM Test:

F-statistic	2.629695	Prob. F(2,29)	0.0892
Obs*R-squared	5.680119	Prob. Chi-Square(2)	0.0584

From table 4.3, the p-value is greater than the chosen level of significance of 5%, indicating the absence of serial correlation in the model. This is further enhanced with a Durbin-Watson statistics of 1.667. Hence, we do not suspect any violation of the assumptions of classical linear regression. The applicable treatment was to lag the variables by three (-2) periods.

4.2.1.3 Test for Heteroskedasticity

The assumption of homoscedasticity is that the variance of the errors is constant but when the error is not constant there it is heteroskedasticity. Hence, the heteroskedasticity was tested in order to find if the variance of errors was constant. The heteroskedasticity test made used of Breusch-Pagan-Godfrey. The null hypothesis is stated that there is no heteroskedasticity if the p-value is greater than the 5% level of significance.

Table 4.4: Heteroskedasticity Test for GOCEXP and Selected Manufacturing Activities

Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	1.543782	Prob. F(5,31)	0.2052
Obs*R-squared	7.376234	Prob. Chi-Square(5)	0.1941
Scaled explained SS	4.749532	Prob. Chi-Square(5)	0.4472

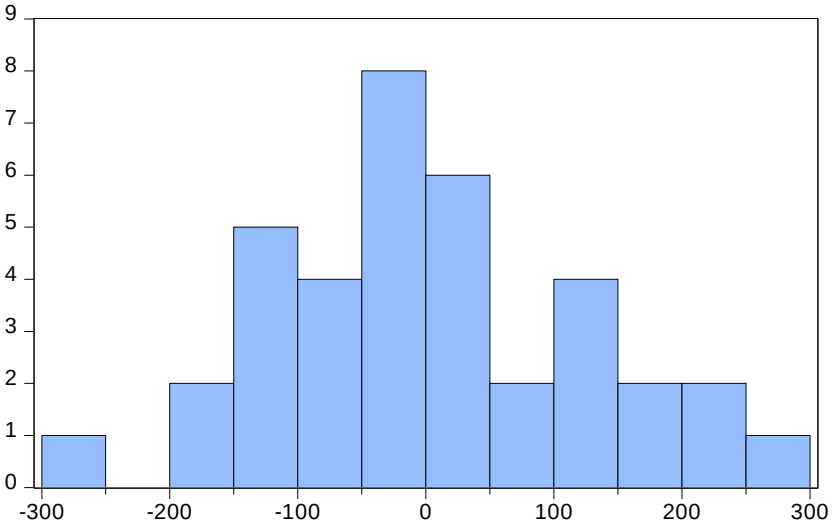
Source: Author's E-view 10.0 Computation

The null hypothesis states that there is no heteroskedasticity if p-value is not significant and is greater than the chosen level of significance of 5%. Therefore, the Null hypothesis is been accepted that there is no evidence of heteroskedasticity since p-value is greater than 5% significance level.

4.2.1.4 Test for Normality and Descriptive Statistics

The assumption of normality of the residual is that the histogram should be bell-shaped and the Jargue-Bera statistic should not be significant. The null hypothesis states that there is normality of the distribution if the p-value Jargue-Bera is not significant and is greaterer than the chosen level of significance of 5%. so as to accept the Null hypothesis and consequently reject the alternate hypothesis, that the series is normally distributed (Brooks, 2014).

Table 4.5: Histogram and Normality Test for GOCEXP and Selected Manufacturing Activities



Series: Residuals	
Sample 1981 2017	
Observations 37	
Mean	9.37e-14
Median	-6.164030
Maximum	298.7146
Minimum	-287.9165
Std. Dev.	126.6121
Skewness	0.313947
Kurtosis	2.834536
Jarque-Bera	0.650012
Probability	0.722523

Source: Author's E-view 10.0 Computation

The null hypothesis states that there is normality of the distribution if the p-value is not significant and is greater than the chosen level of significance of 5%. Therefore, the null hypothesis is been accepted that the distribution are normally distributed since p-value of the Jargue-Bera (0.187096) is greater than 5% significance level. Also, the histogram is bell-shaped.

Table 4.6: Descriptive statistics for Selected Manufacturing Activities

	GOCEXP	ORP	CEP	BMIS	ELECT	FBT
Mean	384.6730	116.9862	238.1284	46.63730	1.948108	1490.547
Median	269.6500	50.53000	223.8500	20.98000	1.180000	1084.400
Maximum	1152.800	344.7100	596.1700	169.6800	5.130000	3104.000
Minimum	4.100000	19.66000	49.85000	13.50000	0.760000	697.6300
Std. Dev.	380.6327	94.50751	144.8729	51.49504	1.440754	746.6837
Skewness	0.579496	0.753456	1.235899	1.664625	1.351658	0.978023
Kurtosis	1.907651	2.310778	3.851064	4.057716	3.147369	2.437386
Jarque-Bera	3.910420	4.233129	10.53590	18.81244	11.29986	6.386592
Probability	0.141535	0.120445	0.005154	0.000082	0.003518	0.041036
Sum	14232.90	4328.490	8810.750	1725.580	72.08000	55150.25
Sum Sq. Dev.	5215724.	321540.1	755573.4	95462.63	74.72777	20071316
Observations	37	37	37	37	37	37

Source: Author's E-view 10.0 Computation

The descriptive statistics in Table 4.6 shows the basic aggregative averages like mean and median for all the observations. The standard deviation is used to indicate the spread and variations in the series. Importantly, kurtosis which shows the degree of peakedness of the distribution is also shown in synonymous of skewness which is a reflection of the degree of departure from symmetry of the given series. With the variables (CEP and BMIS) showing an

average kurtosis > 3, this means that the variables are platykurtic, the variables (GOCEXP, ORP, and FBT) showing an average kurtosis <3, this means that the variables are leptokurtic and the variable (ELECT) showing an average kurtosis = 3, this means that the variable is mesokurtic. Also, the variables (GOCEXP and ORP) Jarque-Bera statistics of p-values is above the 5% level of significance, which means they are not statistically significant and the variables (CEP, BMIS, ELECT and FBT) show Jarque-Bera statistics of p-values are below the 5% level of significance, which means they are statistically significant.

Table 4.7: Pairwise Granger Causality Test

Pairwise Granger Causality Tests
Date: 01/03/19 Time: 18:21
Sample: 1981 2017
Lags: 4

Null Hypothesis:	Obs	F-Statistic	Prob.
ORP does not Granger Cause GOCEXP	33	0.71534	0.5897
GOCEXP does not Granger Cause ORP		3.89748	0.0141
CEP does not Granger Cause GOCEXP	33	1.71996	0.1785
GOCEXP does not Granger Cause CEP		3.28582	0.0278
BMIS does not Granger Cause GOCEXP	33	1.14975	0.3574
GOCEXP does not Granger Cause BMIS		7.97529	0.0003
ELECT does not Granger Cause GOCEXP	33	0.97894	0.4375
GOCEXP does not Granger Cause ELECT		8.49176	0.0002
FBT does not Granger Cause GOCEXP	33	0.17038	0.9514
GOCEXP does not Granger Cause FBT		3.35061	0.0258
CEP does not Granger Cause ORP	33	4.24396	0.0097
ORP does not Granger Cause CEP		3.19742	0.0307
BMIS does not Granger Cause ORP	33	18.6835	4.E-07
ORP does not Granger Cause BMIS		2.17677	0.1022
ELECT does not Granger Cause ORP	33	18.2024	5.E-07
ORP does not Granger Cause ELECT		2.77635	0.0500
FBT does not Granger Cause ORP	33	2.70843	0.0541
ORP does not Granger Cause FBT		4.83547	0.0053
BMIS does not Granger Cause CEP	33	6.19675	0.0014
CEP does not Granger Cause BMIS		0.16673	0.9532
ELECT does not Granger Cause CEP	33	5.23322	0.0036
CEP does not Granger Cause ELECT		0.73883	0.5747
FBT does not Granger Cause CEP	33	2.40121	0.0780
CEP does not Granger Cause FBT		3.23707	0.0294
ELECT does not Granger Cause BMIS	33	3.46021	0.0228

BMIS does not Granger Cause ELECT		4.80967	0.0054
FBT does not Granger Cause BMIS	33	3.58193	0.0199
BMIS does not Granger Cause FBT		3.34372	0.0260
FBT does not Granger Cause ELECT	33	4.22194	0.0100
ELECT does not Granger Cause FBT		7.28707	0.0005

Source: Author's E-view 10.0 Computation

4.3 Hypothesis Testing

From the Granger Causality Test result in Table 11, for some selected manufacturing activities and government capital expenditure in Nigeria, the test was carried out with a lag of 4 period, and the causal effect relationship tested. The choice of a lag of 4 is shown from the lag criteria outcome specified by the lag structure empirically to avoid prejudice of the outcome of the test.

From the result, Oil Refining (ORP) those not granger cause Government Capital Expenditure (GOCEXP) given the probability value of 0.5897 but Government Capital Expenditure (GOCEXP) granger cause Oil Refining (ORP) given the probability value of 0.0141. Therefore, there was a uni-directional causality relationship from Government Capital Expenditure (GOCEXP) to oil refining (ORP) and no feedback returning for Oil Refining (ORP) to Government Capital Expenditure (GOCEXP) in Nigeria.

Decision: We reject the null hypothesis for GOCEXP– ORP, that there exists a Uni-directional causal relationship.

From the result, Cement Production (CEP) those not granger cause Government Capital Expenditure (GOCEXP) given the probability value of 0.1785 but Government Capital Expenditure (GOCEXP) granger cause Cement Production (CEP) given the probability value of 0.0278. Therefore, there was a uni-directional causality relationship from Government Capital Expenditure (GOCEXP) to Cement Production (CEP) and no feedback returning for Cement Production (CEP) to Government Capital Expenditure (GOCEXP) in Nigeria.

Decision: We reject the null hypothesis for GOCEXP– CEP, that there exists a Uni-directional causal relationship.

From the result, Basic Metal, Iron and Steel (BMIS) those not granger cause Government Capital Expenditure (GOCEXP) given the probability value of 0.3574 but Government Capital Expenditure (GOCEXP) granger cause Basic Metal, Iron and Steel (BMIS) given the probability value of 0.0003. Therefore, there was a uni-directional causality relationship from Government

Capital Expenditure (GOCEXP) to Basic Metal, Iron and Steel (BMIS) and no feedback returning for Basic Metal, Iron and Steel (BMIS) to Government Capital Expenditure (GOCEXP) in Nigeria.
Decision: We reject the null hypothesis for GOCEXP– BMIS, that there exists a Uni-directional causal relationship.

From the result, Electrical and Electronics (ELECT) those not granger cause Government Capital Expenditure (GOCEXP) given the probability value of 0.4357 but Government Capital Expenditure (GOCEXP) granger cause Electrical and Electronics (ELECT) given the probability value of 0.0002. Therefore, there was a uni-directional causality relationship from Government Capital Expenditure (GOCEXP) to Electrical and Electronics (ELECT) and no feedback returning for Electrical and Electronics (ELECT) to Government Capital Expenditure (GOCEXP) in Nigeria.
Decision: We reject the null hypothesis for GOCEXP– ELECT, that there exists a Uni-directional causal relationship.

From the result, Food, Beverages and Tobacco (FBT) those not granger cause Government Capital Expenditure (GOCEXP) given the probability value of 0.9514 but Government Capital Expenditure (GOCEXP) granger cause Food, Beverages and Tobacco (FBT) given the probability value of 0.0258. Therefore, there was a uni-directional causality relationship from Government Capital Expenditure (GOCEXP) to Food Beverages and Tobacco (FBT) and no feedback returning for Food, Beverages and Tobacco (FBT) to Government Capital Expenditure (GOCEXP) in Nigeria.
Decision: We reject the null hypothesis for GOCEXP– FBT, that there exists a Uni-directional causal relationship.

4.4 Discussion of Findings

The result of the Ordinary Least Square (OLS) of GOCEXP against ORP and FBT for the time series data showed a positive relationship while GOCEXP against CEP, BMIS, and ELECT showed a negative relationship. At 5% level of significance reveals that CEP and FBT are significant while ORP, BMIS and ELECT are not significant. Furthermore, GOCEXP against the dependent variables (ORP, CEP, BMIS, ELECT and FBT) are significant with F-statistics of 49.8343 and P-value of 0.0000. Also, the result of the Granger Causality of GOCEXP against each of the dependent variables (ORP, CEP, BMIS, ELECT and FBT) carried out at 5% level of significance using a lag of 4 as specified by the lag criteria structure for the time series data reveals that GOCEXP does Granger cause each of the dependent variables (ORP, CEP, BMIS, ELECT and FBT) with the P-value of 0.0141, 0.0278, 0.0003, 0.0002 and 0.0258 respectively while none of the dependent variables (ORP, CEP, BMIS, ELECT and FBT) Granger cause GOCEXP with the P-value of 0.5897, 0.1785, 0.3574, 0.4375 and 0.9514 respectively .
The implication of the result of some selected manufacturing activities on government capital expenditure in Nigeria is that the country's manufacturing sector is yet to produce the vast

quantity of products needed for the country's consumption and then export. Another is that the amount of capital set aside by government for capital expenditure for the promotion of economy activities is inadequate, and despite the inadequacy of the capital there is the problem of misemblezzlement and misappropriation.

5.0 Conclusion

This research work investigated the casual effect of some selected manufacturing activities on government capital expenditure in Nigeria. We concluded from this study that manufacturing activities had no causal effect on government capital expenditure in Nigeria.

5.1 Recommendation

This study therefore recommended that government should create an enabling environment, develop programmes and policies as well ensure there full implementation as to support the growth of manufacturing activities. Also, in preparation of its budget, government should apportion more of its resource towards capital expenditure in order to boost the manufacturing activities and ensure proper accountability of any given project.

References

Abidemi OI, Logile AI, Olawale AL (2011). Foreign aid, public expenditure and economic growth: The Nigeria case. *Journal of Applied Business Research*. 2011; 27(3): 33.

Adebayo, R. I. (2011). Zakat and Poverty Alleviation: A lesson for the Fiscal Policy Makers in Nigeria. *Journal of Islamic Economics, Banking and Finance*, 7(4): 26-41.

Agunuwa, V.E & Nomuoja, J.O (2010). *Impact of Capital Expenditure on the Nigerian Public Sector on Economic Growth*. Department of Banking and Finance, Delta State Polytechnic.

Bowen, H. R. (1943). The interpretation of voting in the allocation of economic resources, the quality. *Journal of Economics*, 28 (1), 27-48.

Central bank of Nigeria (2017). Statistical bulletin

Central bank of Nigeria (2017). *Annual report and statement of account.*

Chris Brooks (2014). *Introductory Econometrics for Finance.* (New York) Cambridge University Press 2nd Edition.

Dickson, D. A. (2010). The recent trends and patterns in Nigeria's industrial development. *Council for the Development of Social Science Research in Africa.*

Edame, G.E., & Eturoma, A.D. (2014). The determinants of public expenditure on educational infrastructural facilities and economic growth in Nigeria. *Journal of Business Management and Economics*, 5 (6), 152-161

Emmanuel FO, Olagbaju IO (2015). Effect of government capital expenditure on manufacturing sector output in Nigeria*. Business and Economic Research*. 2015; 5(2).

Eze O. R & Ogiji F. O (2013). The impact of fiscal policy on the manufacturing sector output in Nigeria. *International journal of business and management review*. 1(3), 35-55

Hall, D (2010). *Why We Need Public Spending*. London: PSIRU, Business School, University of Greenwich, Park Row.

Imoughele, M. E., & Ismaila, M. (2014). Empirical Investigation of the Impact of Monetary Policy on Manufacturing Sector Performance in Nigeria (1986 –2012), *International Journal of Education and Research*, *2*(1).

Kayode, M. O. (1989). *Nigeria since independence: The first 25 years.* Ibadan: Heinemann Books Ltd.

Libanio, G. (2006). *Manufacturing Industry and Economic Growth in Latin America: A Kaldorian Approach*, CEDEPLAR, Federal University of Minas, Gerais (Brazil).

Mbelede, C. (2012). Cost Engineering in the manufacturing sector of the economy of Nigeria. *Paper presented at the 3rd Annual Technical Conference of Institute of Appraisers and Cost Engineering, Abuja, Nigeria.*

Okeke, B.C. (2014). *Impact of public sector spending on health and education outcomes in Nigeria.* An M.sc dissertation submitted to the department of Economics, University of Nigeria, Nsukka.

Peacock, A. & Wiseman, J. (1967). *The growth of public expenditure in the UK.* Princeton, USA: Princeton University Press.

Shantayanan D, Vinaya S, Heng –fu Z (1996). The composition of public expenditure*. Journal of Monetary Economics*. 1996; 37: 313-344.

Wagner, .A. (1893). *Foundation of political economy* (3rd ed). Lieipzig

Yelwa, .M., Danlami, A.M., & Obansa, S.A.J. (2014). Sectorial analysis of public expenditure and economic growth in Nigeria (1982-2012). *Journal of Economics and Sustainable Development*, 5 (12), 166 – 175