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# CO-INTEGRATION ANALYSIS OF THE IMPACT OF MANUFACTURING SECTOR ON ECONOMIC GROWTH IN NIGERIA

**BY**

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## ABSTRACT

Thisstudy examined the long run impact of manufacturing sector on economic growth in Nigeria. Secondary data were used in this study. The relevant data were sourced from the publications of the Central Bank of Nigeria. Some of the publications include, CBN's Annual Reports and Statement of Accounts for the years under review. The variables for which data were sourced include: manufacture output, Economic Growth, investment, non-oil export, non-oil import and exchange rate from 1980 to 2017. Units root test, Johansen co-integration, Vector Error-Correction Model, and Granger causality tests were employed to determine the long run relationship and causality links among the variables. According to Johansen normalization restriction imposed outcome manufacturing sector, investment and export had positive significant effect on GDP in the long run. On the contrary,IMPand EXCH had negative effect on GDP in the long run. There is bi-directional causality between GDP and MANUF, that GDP granger-caused manufacturing sector and vice visa. Iy is concluded that manufacturing sector had positive significant impacts on economic growth in Nigeria in the long run. It is recommended that government should implement policies that will reduce exchange rate so that there will be much returns for manufacturing sector to expand their investment which will invariably increase employment generation, reduce the level of poverty, and improve standard of living in the country.

**Key words**: *Manufacturing Sectors; Performance;* Johansen Co-integration; Vector Error-Correction Model; Granger Causality;*Economic Growth; Nigeria*

## INTRODUCTION

Manufacturing sectors are crucial a part of the Nigeria economy and developing the economy has become the goal of maximum parastatals inside the developing part of the world. Manfacturing sectors comprising a good sized proportion of the country's informal sector although a small range of industries existed within the united states of America before Nigeria's independence . Previous to 1986, the performance of the manufacturing sector accompanied closely the sample of increase of the external area. These turned into a mirrored image of the manufacturing sector high dependence on the external sector for both income and efficient inputs. Thus after experiencing an outstanding boom in performance among the mid-1970s and the nineteen eighties,the Nigerian production quarter followed closely the pattern of growth of the external sector.Due to the extended dependence of manufacturing sectors on outside zone,oil sales gives the driving pressure for domestic demand and investible funds range for the manufacturing sector. Accordingly among seventies and nineteen eighties the Nigerian manufacturing sector witnessed increase inits performance efficiency after which they enjoy stagnation round 1983. Iwayemi (1994)gave two motives for this occurrence;first,a susceptible demand arising from the pointy fall on actual earnings because of economic recession and excessive product charges and second, low export marketplace penetration because of poor quality control , manipulate and excessive cost of production arising from the excessive price of imported inputs.

Although manufacturing is usually a small sector in African economies,in terms of share of total output or employment ,growth of this sector has long been considered crucial for economic development and this special interest in manufacturing stems from the belief that the sector is a potential engine of modernization,a creator of skilled jobs and a generator of positive spillover effects.(Tybout,2000).The purpose of this paper is not only to analysis the performance efficiency of manufacturing sector but to find out how it affect or enhance the economy in Nigeria and to effectively study the manufacturing sector performance efficiency in correspondence in present situation in Nigeria as a country it is very important to examine the capacity utilization of the sector and its corresponding effects on Nigeria economy growth because a manufacturing company that focus solely on what their output will be without putting into consideration how to achieve that output is working towards closing down.

Nevertheless in the realm of this research for efficiency seem to have underestimated the most powerfultools we have ourselves and that is capacity utilization that is how we

utilize individual capacity as a social whole.**A** number of manufacturing companies have not given much attention to how they performefficiently in relation to how to utilize their capacity,despite their importance in enhancing economic growth in Nigeria. Nevertheless in the realm of this research for efficiency,we seem to have underestimated the most powerfultools we have ourselves and that is capacity utilization that how we utilize individual capacity as a social whole.Also ,there was difficultyin ascertaining whether comprehensive manufacturing policies have been implemented and there has been a growing concern on the decline of the output of the manufacturing sector in Nigeria in recent times, despite the fact that the government embarked on several strategies aimed at improving industrial production and capacity utilization of the sector. This worry is understandable in view of the fact that it has been generally acclaimed, through the Kaldor's first law, that manufacturing sector is regarded as the engine of growth of the economy (Libanio, 2006).

The unimpressive performance of the sector in Nigeria is mainly due to massive importation of finished goods and inadequate financial support for the manufacturing sector, which ultimately has contributed to the reduction in capacity utilization of the manufacturing sector in the country. Enebong(2003) argued that the level of the Nigerian manufacturing organizations' performance will continue to see a decline because as it is now, the manufacturers will have even more problems in assessing raw materials due to stiff competition from the foreign firms. Figure 1 shows that the average manufacturing capacity utilization rates which was 42.0% in 1991 was reduced to 29.3% in 1995, before picking up to 36.1% and 53.9% in 2000 and 2008 respectively.Arising from above, this study examined the long run effect of manufacturing sector on economic growth, and analyzed the causality between manufacturing sectors and economic growth in Nigeria.

**Research Hypotheses**

The hypotheses stated in the null form weretested in the course of this research:

**Ho1:** Manufacturing sector has no long run effect on economic growth in Nigeria.

**$H_0$2:** Manufacturing sector has no causality between manufacturing sector and economic growth in Nigeria.

## LITERATURE REVIEW

### Manufacturing sector in Nigeria

Manufacturing has been criticized based on its weakness in influencing the capacity utilization of the firm growth theories of the firm suggest that managers desires commission and other benefits so they are willing to increase the sales of the firm because their commission is also important. In increasing output there would be some degree of multi – shift operations so that his commission can be raised; but saying that the manager considers some risk implies that he is unable to raise the projected output that paves way for sales maximization and the raising of his commission. Loto (2012)declares that manufacturing sectors serves as an avenue for increasing productivity in relation to import replacement and export expansion, creating foreign exchange earning capacity, raising employment and per capital income. Mbelade (2012) opened that manufacturing sector is involved in the process of adding value to raw materials by turning them into products. Before manufacturing industries are the variables key in an economy that motivates conversion of raw material into finished goods. Charles(2012)expressed that this industries created employment which helps to boost agriculture and diversifies the economy on the process of helping the nation to increase its foreign exchange earnings.

Manufacturing industries came into being with the occurrence of technological and socio-economic transformations in the western countries in the $18^{th}$-$19^{th}$centuries.This period was called industrial revolution.It all began in Great Britain and it replaced the labour intensive textile production with mechanization and use of fuels. Manufacturing sector is categorized into engineering,construction,electronic,chemical,energy,textile,food and beverages, plastic, transport and telecommunication sectors(CBN,2012) .In Nigeria, the level of growth in manufacturing sector has been affected by high interest rate on lending rate and this is responsible for high cost of production in the country's manufacturing sector(Adebiyi 2001).

Lecraw (1978), developed the factors which influence the capacity utilization decision of 200 firms in the light manufacturing sector of Thailand during the period 1962 to 1974. The profit maximizing capacity utilization rate for each firm was calculated using the projected balance sheets and income statement prepared by the firms at the time of their initial investment. Firm's optimal capacity to be roughly twice the capacity utilization rates chosen by firms meaning that there was excess capacity resulting in in insufficient demand

to warrant the expansion of output in the light industries. It is worth flagging that the manager's perceived risk of multi shift operations.

Manufacturing has been criticized based on its weakness in influencing the capacity utilization of the firm growth theories of the firm suggest that managers desires commission and other benefits so they are willing to increase the sales of the firm because their commission is also important. In increasing output there would be some degree of multi – shift operations so that his commission can be raised; but saying that the manager considers some risk implies that he is unable to raise the projected output that paves way for sales maximization and the raising of his commission.

James and Ragan (1979), investigated short term projections of manufacturing capacity utilization and used an equation linking growth in manufacturing output to growth in GNP and estimated additions to manufacturing capacity based on projections of investment. The model was then used to project capacity utilization from third –quarter of 1977 to fourth – quarter of 1978. Their results were that changes in capacity utilizatsion from one period to the next depended positively on the volume of investment and negatively on the extent of depreciation which in turn depended on the level of capacity in the last period. As many economists have observed, investment accelerates as the volume of unused capital shrinks, that is, as the capacity

utilization rises. Changes in investment were therefore specified to be a function of past changes in capacity utilization. The result showed estimates over the period 1954 to 1976. From the first equation, it was apparent that manufacturing output was more volatile than GNP, the large coefficient for GNP indicated that rapid GNP growth is on average accompanied by even GNP

growth in manufacturing output.

## METHODOLOGY

Secondary data were used in this study. The relevant data were sourced from the publications of the Central Bank of Nigeria. Some of the publications include, CBN's Annual Reports and Statement of Accounts for the years under review. The variables for which data were sourced include: manufacture output, Economic Growth, investment, non-oil export, non-oil import and exchange rate from 1980 to 2017. Regression analysis technique was used to measure the effects ofindependent variableson dependent variable while Units root test, Johansen co-integration, Vector Error-Correction Model, and Granger causality tests were employed to determine the long run relationship and causality links among the variables.

**Model specification**

The formulation of the model to be used in this model will be based on theory that manufacturing industries contributes to the growth of a country. The measure of economic growth used in the study is the Gross Domestic Product, which is the dependent variable while manufacturing output ,investment, export ,import and exchange rate will be independent .

The functional form on which our econometric model is based is given as;

$$Y = f(x1, x2, x3, x4, x5, u) \quad (1)$$

$$\sum_{i=1}^{n} GDP = a0 + \sum_{i=1}^{n} a1MANUF + \sum_{i=1}^{n} a2INV + \sum_{i=1}^{n} a3EXPORT + \sum_{i=1}^{n} a4IMPORT + \sum_{i=1}^{n} a4EXCH + \mu 4 \quad (3)$$

Transforming equation (3) to the natural logarithm it changed to

$$\sum_{i=1}^{n} LOGGDP = a0 + \sum_{i=1}^{n} a1LOGMANUF + \sum_{i=1}^{n} a2LOGINV + \sum_{i=1}^{n} a3LOGEXPORT + \sum_{i=1}^{n} a4LOGIMPORT + \sum_{i=1}^{n} a4LOGEXCH + \mu 4 \quad (4)$$

Where as

| | | |
|---|---|---|
| MANF | - | Manufacturing Sector |
| INV | - | Investment |
| EXP | - | Non-Oil Export |
| IMP | - | Non-Oil Import |
| EXCH | - | Exchange Rate |
| GDP | - | Economic Growth |

Basic VECM is

$$\Delta \mathbf{y}_t = \alpha \beta' \mathbf{y}_{t-1} + \sum_{t=1}^{p-1} \mathbf{\Gamma}_i \Delta \mathbf{y}_{t-i} + \epsilon_t \quad \textbf{(5)}$$

where y is a (K x 1) vector of I(1) variables, αand β are (Kx r) parameter matrices with rankr < K, $\Gamma_1$,.,.., $\Gamma_{p-1}$ are (K x K) matrices of parameters, and εt is a (K x1) vector of

normallydistributed errors that is serially uncorrelated but has contemporaneous covariance matrix .

**RESLTS AND DISCUSSION**

**The Effect of Manufacturing on Economic Growth in the Long-run**

This section examined the effect of manufacturing in economic growth in the long-run. The result of selection of lag test, vector auto regression, Granger causality wald tests Johansen tests for co-integration,vector Error-Correlation Model.

**Table 1: Unit Root Test**

| Variables | ADF stat | 1% critical value | 5% critical value | 10% critical value | Order of integration | Remark |
|---|---|---|---|---|---|---|
| GDP | 9.595 | -3.682 | -2.9572 | -2.6I8 | I(0) | Stationary |
| MANF | 4.277 | -3.682 | -2.9572 | -2.6I8 | I(1) | Stationary |
| INV | 4.735 | -3.682 | -2.9572 | -2.6I8 | I(1) | Stationary |
| IMPORT | -3.171 | -3.709 | -2.983 | -2.623 | I(1) | Stationary |
| EXPORT | -4.522 | -3.702 | -2.980 | -2.622 | I(1) | Stationary |
| EXCH | 1.256 | -3.709 | -2.983 | -2.623 | I(1) | Non Stationary |

(*), (**) and (***) means stationary at 1%. 5% and 10% respectively

It has been a common practice, in applied econometric analysis, to test the order of integration of time series. The study applied ADF unit root test, at level and at the first difference of the time series with assumption of no drift and tend, to have the information about the order of a time series. ADF test results reported in the Table 1 are evident that we are unable to reject the null hypothesis for the presence of a unit root at level of each of the time series. All of the time series are stationary at their first difference. Since each of the time series is stationary at its first difference so the variables are cointegrated. There exists an equilibrium or long run relationship between the time series if all the variables are integrated of the same order, Engle & Granger (1987). The study applies Johansen cointegration technique. Johansen and Juselius (1991) introduced, in the multivariate cointegration test, the two likelihood ratio tests (Maximum eigen value and Trace tests) to find out the number of cointegrating vectors.

**Table 2: Selection-Order Criteria**

| Lag | LL | LR | df | P | FPE | AIC | HQIC | SBIC |
|---|---|---|---|---|---|---|---|---|
| 0 | -177.934 | | | | .000093 | 7.74585 | 7.83695 | 8.02068 |
| 1 | 62.3991 | 360.67 | 36 | 0.000 | 1.2e -08 | -1.27494 | -.637264 | .648837 |
| 2 | 90.5196 | 56.241 | 36 | 0.017 | 2.5e-08 | -.782476 | .401783 | 2.79025 |
| 3 | 150.7 | 120.36 | 36 | 0.000 | 1.2e-08 | -2.29374 | -.562899 | 2.92794 |
| 4 | 298.179 | 294.96* | 36 | 0.000 | 95e- 11* | 73.99133 | 74.80275 | 6.37066 |

**Source: Authors' computation (2018)**

The Hannan–Quinn information criterion (HQIC) method, Schwarz Bayesian information criterion (SBIC) method, and Akaike information criterion(AIC) test, all chosed four lags, as indicated by the "*" in the Table 2.

**Table 3 : Vector Autoregression**

| Equation | Parms | RMSE | R-sq | Chi 2 | P>chi2 |
|---|---|---|---|---|---|
| Gdp | 13 | 769.697 | 0.9996 | 90735.12 | 0.0000 |
| Manuf | 13 | 84.6718 | 0.9994 | 56400.85 | 0.0000 |
| Inv | 13 | 48.014 | 0.9958 | 8122.269 | 0.0000 |
| Import | 13 | 349.919 | 0.9911 | 3798.079 | 0.0000 |
| Export | 13 | 54.1246 | 0.9845 | 2160.04 | 0.0000 |
| Exch | 13 | 11.3862 | 0.9857 | 2340.562 | 0.0000 |
| Log Likelihood = -1113.926 | PE = 1.45e+23 | et ml) | (Sigma- =1.15e +21 | AIC = 73.99133 | HQIC =74.80275 | SBIC =76.37066 |

**Source: Authors' computation (2018)**

**Table 4: Johansen Tests For Cointegration**

| Maximum Rank | Parms | LL | eigenvalue | Trace statistic | 5% critical value | 1% critical value |
|---|---|---|---|---|---|---|
| 0 | 42 | 29.539898 | | 107.8572 | 94.15 | 103.18 |
| 1 | 53 | 53.318446 | 0.75309 | 60.3001 | 68.52 | 76.07 |
| 2 | 62 | 65.618952 | 0.51498 | 35.6991 | 47.21 | 54.46 |
| 3 | 69 | 73.655915 | 0.37672 | 19.6251 | 29.68 | 35.65 |
| 4 | 74 | 78.037724 | 0.22721 | 10.8615*1*5 | 15.41 | 20.04 |
| 5 | 77 | 81.547553 | 0.18654 | 3.8419 | 3.76 | 6.65 |
| 6 | 78 | 83.468487 | 0.10685 | | | |

**Source: Authors' computation (2018)**

Table3 and Table 4 produced information about the sample, the trend specification, and the number of lags included in the model. The main table contains a separate row for each possible value of r, the number of cointegrating equations. When r = 6, all six variables in this model are stationary. In this study, because the trace statistic at r = 0 of 29.5398 exceeds its critical value of 94.15 the null hypothesis of no cointegrating equations are rejected. Similarly, because the trace statistic at r = 1 of 60.3001 exceeds its critical value of 68.52, the null hypothesis that there is one or fewer cointegrating equation is also rejected. In the same vein, because the trace statistic at r = 2 of 35.6991 exceeds its critical value of 47.21 the null hypothesis that there is two or fewer cointegrating equation is also rejected. The trace statistic at r = 3 of 19.6251 exceeds its critical value of 29.68 the null hypothesis that there is three or fewer cointegrating equation is also rejected. In contrast, because the trace statistic at r = 4 of 10.8615*1*5 is less than its critical value of 15.41, the null hypothesis that there are four or fewer cointegrating equations cannot be rejected. Therefore there are four or fewer cointegration equations among the variables.

**Vector Error-Correction Model**

**Table 5: Johansen normalization restriction impose**

| | Coef. | Std.Er | t | P/t/ | [95% conf. | interval} |
|---|---|---|---|---|---|---|
| | 1 | | | | | |
| LOG GDP | | . | . | . | . | . |
| LOGMANUF | -.7461926 | .043466 | -17.17 | 0.000 | -.8313844 | -.6610008 |
| LOGINV | .1982262 | .0158789 | 12.48 | 0.000 | .1671045 | .2293484 |
| LOGIMPORT | -.1797394 | .0311814 | -5.76 | 0.000 | -.2408538 | -.1186249 |
| LOGEXPORT | -.2927219 | .204889 | -14.29 | 0.000 | -.3328794 | -.2525645 |
| LOGEXCH | -.0702878 | .0214834 | -3.27 | 0.001 | -.1123944 | -.0281811 |

**Source: Authors' computation (2018)**

Table 5 contained information about the sample, the fit of each equation, and overall model fit statistics. The first estimation table contains the estimates of the short-run parameters, along with their standard errors, z statistics, and confidence intervals. The three coefficients on L. ce1 are the parameters in the adjustment matrix for this model. The second estimation table contains the estimated parameters of the cointegrating vector for this model, along with their standard errors, z statistics, and confidence intervals. According to Johansen normalization restriction imposed table, one percent increase inMANUFincreaseseconomic growth by 0.746% in the long run, this shows that there is a positive significant effect of MANUFon GDP. Also, one percent increase INV increase GDP by 0.198% in the long run, this shows a positive effect of INV on GDP in the long run. In the same vein, one percent increase in IMP reduces GDP by -.179% in the long run, this also shows that there is a negative significant effect of IMP on GDP in the long run. More so, one percent increase in EXP reduces GDP by 0.292% in the long run, this also shows a negative effect of EXP on GDP in the long run.More so,one percent increase in EXCH reduces GDP by 0.0702%. Coefficient is statistically significant confirmed by P>|z| which is 0.000. Overall, the output indicates that the model fits well. The coefficient on GDP in the cointegrating equation is statistically significant.

**Table 6: Granger Causality Wald Tests - Causality between Manufacturing and Economic Growth**

| Equation | Excluded | Chi 2 | df | Prob>chi2 | Decision | Remark |
|---|---|---|---|---|---|---|
| GDP | MANUF | 31.257 | 2 | 0.000 | MANF granger-cause GDP | Significant |
| GDP | INV | 10.446 | 2 | 0.005 | INV granger –cause GDP | Significant |
| GDP | IMPORT | 10.123 | 2 | 0.006 | Import granger-cause GDP | Significant |
| GDP | EXPORT | 8.1317 | 2 | 0.017 | Export granger –causeGDP | Significant |
| GDP | EXCH | 80.265 | 2 | 0.000 | EXCH granger-cause GDP | Significant |
| GDP | ALL | 144.32 | 10 | 0.000 | ALL granger-cause GDP | significant |
| MANUF | GDP | 27.947 | 2 | 0.000 | GDP granger-cause MANUF | Significant |
| MANUF | INV | 39.17 | 2 | 0.000 | INV granger-cause MANUF | Significant |
| MANUF | IMPORT | 51.038 | 2 | 0.000 | Import ganger-causeMANUF | Significant |
| MANUF | EXPORT | 28.234 | 2 | 0.000 | Export ganger-cause MANUF | Significant |
| MANUF | EXCH | 2.7738 | 2 | 0.250 | EXCH ganger-cause MANUF | Significant |
| MANUF | ALL | 383.49 | 10 | 0.000 | ALL ganger-cause MANUF | Significant |
| INV | GDP | 4.6374 | 2 | 0.098 | GDP ganger –cause INV | Significant |
| INV | MANUF | 3.596 | 2 | 0.166 | MANUF ganger-cause INV | Significant |
| INV | IMPORT | .34109 | 2 | 0.843 | IMPORT ganger-cause INV | Not Significant |
| INV | EXPORT | 14.82 | 2 | 0.001 | EXPORT ganger- cause INV | Significant |
| INV | EXCH | .9124 | 2 | 0.634 | EXCH ganger-cause INV | Not Significant |
| INV | ALL | 110.24 | 10 | 0.000 | ALL ganger-cause INV | Significant |
| IMPORT | GDP | 17.4 | 2 | 0.000 | GDP granger –cause PORT | Significant |
| IMPORT | MANUF | 12.355 | 2 | 0.002 | MANUF granger-cause import | Significant |
| IMPORT | INV | 8.5914 | 2 | 0.014 | INV granger-cause IMPRT | Significant |
| IMPORT | EXPORT | 7.2923 | 2 | 0.026 | EXPORT granger-cause IMPRT | Significant |
| IMPORT | EXCH | 17.422 | 2 | 0.000 | EXCH granger-cause import | Significant |
| IMPORT | ALL | 194.82 | 10 | 0.000 | ALL granger –cause import | Significant |
| EXPORT | GDP | 29.229 | 2 | 0.000 | GDP granger-cause EXPORT | Significant |
| EXPORT | MANUF | 44.902 | 2 | 0.000 | MANUF granger-cause EXPORT | Significant |
| EXPORT | INV | 9.0481 | 2 | 0.011 | INV granger-cause EXPORT | Significant |
| EXPORT | IMPORT | 7.4708 | 2 | 0.024 | IMPRT granger-cause EXPORT | Significant |
| EXPORT | EXCH | 2.6034 | 2 | 0.272 | EXCH granger-cause EXPORT | Significant |
| EXPORT | ALL | 166.73 | 10 | 0.000 | ALL granger-cause EXPORT | Significant |
| EXCH | GDP | 25.593 | 2 | 0.000 | GDP granger-cause EXCH | Significant |
| EXCH | MANUF | 27.591 | 2 | 0.000 | MANF granger-causeEXCH | Significant |
| EXCH | INV | 12.27 | 2 | 0.002 | INV granger-cause EXCH | Significant |
| EXCH | IMPORT | 16.152 | 2 | 0.000 | IMPRT granger-causeEXCH | Significant |
| EXCH | EXPORT | 12.63 | 2 | 0.002 | EXPT granger-cause EXCH | Significant |
| EXCH | ALL | 151.18 | 10 | 0.000 | All granger-cause EXCH | Significant |

**Source: Authors' computation (2018)**

Consider the results of the five tests for the first equation in the Table 6.The first is a Wald test that the coefficients on the four lags of MANUF that appear in the equation for GDP are jointly zero. The null hypothesis that MANUF does not Granger-cause GDP cannot be accepted because Prob> chi2 is 0.000 which is less than 0.05 which is less than 0.05 therefore MANUFgranger-cause GDP. Also, the null hypothesis that the coefficients on the four lags of INV in the equation for GDP are jointly zero cannot be accepted because Prob> chi2 is 0.005. Therefore, the hypothesis that INV does not Granger cause GDP cannot be accepted, therefore INV granger-cause GDP. The null hypothesis that IMPORT does not Granger-cause GDP cannot be accepted because sProb> chi2 is 0.006 which is less than 0.05 therefore IMPORT granger-cause GDP. More so, the null hypothesis that the coefficients on the five lags of EXPORT in the equation for GDP are jointly zero cannot be accepted because Prob> chi2 is 0.017 which is less than 0.005 ,therefore EXPORT granger-cause GDP. The fifth null hypothesis is that the coefficients on the five lags of all the other endogenous variables are jointly zero. Inaddition, the null hypothesis that the coefficients on the five lags of EXCH in the equation for GDP are jointly zero cannot be accepted because Prob> chi2 is 0.000 which is less than, therefore EXCH granger-cause GDP. This null hypothesis cannot be accepted because Prob> chi2 is 0.000 which is less than that is MANUF, INV, IMPORT, EXPORT and EXCH, jointly, Granger-cause GDP. Therefore the null hypothesis is rejected, alternative hypothesis is accepted that is there is causality between Manufacturing sector and Economic growth.

## SUMMARY AND CONCLUSION

Thisstudy examined the long run effect of manufacturing sector on economic growth in Nigeria. Secondary data were used in this study. The relevant data were sourced from the publications of the Central Bank of Nigeria. Some of the publications include, CBN's Annual Reports and Statement of Accounts for the years under review. The variables for which data were sourced include: manufacture output, Economic Growth, investment, non-oil export, non-oil import and exchange rate from 1980 to 2017. Units root test, Johansen co-integration, Vector Error-Correction Model, and Granger causality tests were employed to determine the long run relationship and causality links among the variables. According to Johansen normalization restriction imposed outcome manufacturing sector, investment and export had positive significant effect on GDP in the long run. On the contrary,IMPand EXCH had negative effect on GDP in the long run. There is bi-directional causality between GDP and

MANUF, that GDP granger-caused manufacturing sector and vice visa. Iy is concluded that manufacturing sector had positive significant impacts on economic growth in Nigeria in the long run. It is recommended that government should implement policies that will reduce exchange rate so that there will be much returns for manufacturing sectorto expand their investment which will invariably increase employment generation, reduce the level of poverty, and improve standard of living in the country.

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