Is Industrialization has Impact the on Economic-Growth; ECOWAS Members' States Experience?

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Abstract: The work focused on the Impact of Industrialization on Economic Growth: The ten selected Economic Community of West Africa (ECOWAS) Experience members' states (2000-2013) namely; Republic of Nigeria, Benin Republic, Cabo Verde, Cote D'Ivoire, The Gambia, Ghana, Guinea-Bissau, Mali, Niger, and Senegal. The study set three major objectives which include investigating the effect of fiscal and monetary policy on Gross Domestic Product, determining the relationship between government spending and industrial development and to determine the effect of budget on investment or employment generation. The study only utilized secondary data from National Bureau of Statistics and Central Bank of Nigeria StatisticalBulletin. The study specified a workable model in which the gross domestic product (GDP) is the dependent variable while industrial output, foreign direct investment, interest rate, foreign exchange rate and inflation rate were independent variables. Ordinary least square (OLS) technique, F-test was used as analytical techniques. The study revealed that industrialization has a negative impact on economic growth in Nigeria in the long run. This was confirmed by the F-test value (559.02). The study recommended that government should redirect its industrial and investment policy so as to increase output of the domestic production (RGDP), flexible exchange rate and control inflation rate since that showed that increase in exchange and inflation rate, decreased output, industrial and investment policy should be flexible on infant industries so as to encourage productivity and improve GDP.

1. Introduction:

The overriding objective of industrial policy is to accelerate the pace of industrial development by radically increasing value-added at every stage of the value chain. Economic Community of West Africa members' state's resources will no longer, in the main be traded in their primary state. The regional government should emphasize increases in Total Factor Productivity (TFP) by pursuing knowledge, skill and intensive production on the basis of available best practices. Members' state's Industrial Development Strategy should encourage forward and backward linkages within a few chosen niches. Government will continue to provide the enabling environment for private sector leadership, facilitate renewal for sunset industries, and encourage innovators across the members' states.

Industries are very important in a developing country like ECOWAS states because their marginal revenue products of labor are higher than the marginal revenue productoflabor in the agricultural sector. Thus, the releasing of labor force from agricultural sector to the industrial sector increases the marginal product of labor in the agricultural sector and increases the overall revenue and output of the society (economic-growth). Therefore, industrialization is a sin qua non for sustainable economic growth in the members' states.

Hirschman, (2005) the tendency of the industrial sector to stimulate more economic growth has prompted many economists to formulate theories to encourage industrialization. Famous among the early theories formulated are Leibenstein's theory of critical minimum effort thesis; Nelson's theory of low equilibrium trap; Rosenstein – Rodan's theory of the big push; the doctrine of balance growth; Hirschman's doctrine of unbalance growth; the import substitution strategy; and export promotion strategy. Overtime, the influences of these theories on policy decisions have been varied. To examine the impact of industrialization in the ten selected members' states, the study hypothesis was industrialization does not stimulate economic growth in the ten selected members' states.

To carry out the current study, the study introduces the subject of the study, giving background on the above. The rest of the work is classified into statement problem, objectives, literature review, research methodology;

results interpretation; summary, conclusion, and finally recommendations (Abiola & Egbuwalo, 2010).

1.1. Problem Statement

More often than not, people commonly speak or argue that the Nigerian economy has myriad or hydro-headed economic problems. This means that people clearly observe the macroeconomic instability in the ten selected members' states. Okafor, (2005) with regard to Nigeria, despite all efforts, since October 1960 the level of industrialization remains very low even with oil wealth. This has been the situation notwithstanding the varied strategies that has been put to use overtime for its industrialization (Uzechukwu, 2015).

Even though the economy was adjudged to be fairly good it, however, fluctuated because the real Gross Domestic Product (RGDP) was unstable. Also, other economic indicators such as industrial output, foreign direct investment, interest rate, foreign exchange rate and inflation rate show some symptoms of ailing economy. Amakom, (2008).it is against this background that this research is carried out to find monetary and fiscal policy in Nigeria that is effective in economic growth and stability.

1.2. Objectives of the Study

The general objective of the study was the impact of Industrialization on Economic Growth in the ten selected members' states. While the specific objectives include to:
i: Investigate the effect of fiscal policy on Gross Domestic Product (GDP)
ii: Examine the effectiveness of fiscal and monetary policy on economic growth
ii: To determine the relationship between government spending and industrial development
iv: To determine the effect of Budget on investment or employment generation

2. Literature Review:

The theoretical framework used in this study is based on aggregate production function based on endogenous growth model developed by Jones and Manuelli (1990) which avoid diminishing returns to capital. The model is presented as follows:

y= f (k, l) 1, Where: y is per capital output; k is capital industrial output ratio, and l is labor industrial output ratio.

The aggregate production function has constant average and marginal product of capital and it does not exhibit convergence property (Barro and Sala-i-Martin, 2004). The term industrial growth or more simply industrialization has two distinct meanings. It can be conceived as a shift in a country's pattern of output and workforce towards manufacturing or secondary industry (Clunies- Ross et al., 2010). Itcan also be defined in terms

of income levels reaching a certain threshold. It is on the basis of this that countries are classified into, low-income; lower middle income, higher middle income, lower upper income, higher upper income and high-income countries. This is a broader dimension of industrialization.

In a work of this nature, it is conventional to use the first definition above. It is against this background that Sullivan and Sheffin (2003) define industrialization as the process of societal and economic change that transforms a human group from agrarian to industrial one. In their view, industries bring about change in three ways: modernization, development of large-scale energy and metallurgy production. These aspects are closely link with economic growth. Chete, et al., (2014)also assert that industrialization bring with it the sociological process of rationalization.

Economic growth has been conceived as increase in per capital income over a period of time (Clunies – Ross, et al., 2010; Jhingan, 2005), Abbott (2003) considers the following as key positive factors stimulating industrialization: good governance, good legal framework, availability of natural resource, relative low-cost skilled labour, and technology.

Bolaky (2011) summarizes most of the empirical and theoretical arguments in favor of industrialization. He posits that there is a positive correlation between the level of industrialization and per capita income for developing countries. Dodzin and Vamvakidis, (2004) empirical evidences demonstrate that there is higher marginal product of labor from industrial sector than in agricultural sector and so the transferring of resources from agricultural sector to the industrial sector raises total productivity in the economy.

There are studies relating to industrialization and economic growth. Blomstrom, Lipsey, and Zegan (1992) posit that industrialization through foreign investors can exert a positive effect on economic growth rate, they argued that industrialization's contribution to economic growth rate is dependent on the threshold level of income. This means that, below the threshold level of income, the contribution of industries to economic growth is not significant and above the threshold, it is significant(Change, 2005).

The explanation is that it is only countries that have reached a certain income level that can benefit effectively from the packages of those industries and foreign investors. Such packages are new technologies, human capital development, and managerial skills (Kaya, 2010).

Shafaeddin (2005) analyses economic performance of a sample of developing countries that have undertaken economic reforms since the early 1980s with the objective of expanding exports and diversification in favor of manufacturing sector.

3. Methodology:

The study was designed to cover the ten selected members' states namely; Republic of Nigeria, Benin Republic, Cabo Verde, Cote D'Ivoire, The Gambia, Ghana, Guinea-Bissau, Mali, Niger, and Senegal.

The research work only utilized secondary data from the members' states' National Statistics Offices and World Bank database.

3.1. Method of Data Analysis

Models were specified and ordinary least square (OLS) regression was used to analyze the models. Estimation of parameters of the models required data on industrial output, foreign direct investment, foreign exchange rate interest rate and Gross Domestic Product at constant prices. Some criteria such as coefficient of determination (R^2), T-test, F-test, and Durbin -Watson (DW) statistics were used. Durbin-Watson statistics was used to be able to examine the extent of serial correlation among variables.

3.2. Model specification

$RGDP = F(X_1, X_2, X_3, X_4) + U_t$
Where
RGDP   =Real Gross Domestic Product (Y)
X_1 =Manufacture output (MO)
X_2 =Foreign Direct Investment (FDI)
X_3 =Foreign Exchange rate (FER)
X_4 =Inflation rate (IR)
X_5 =Bank Interest rate (BIR)
U_t =Stochastic (error) variable

3.2.1. Nigerian Econometric Model

$RGDP = 2.076 + 0.904MA + 0.045FDI - 0.047EXR + 0.005BIR - 0.021IR + Ut$
(10.396) (14.962) (2.643) (-0.418) (0.056) (-1.025)
T-statistics are in parenthesized,
$R^2 = 0.997$ Adjusted $R^2 = 0.995$
F-Statistics = 599.02   D-W = 1.61

The Nigerian economic model above, shows that Manufacturing output increased real Gross Domestic Product by 0.9 magnitude, Foreign Direct Investment increase real Gross Domestic Product by 0.045 magnitude, Interest rate increase real Gross Domestic Product by 0.005 magnitude while increase in Exchange rate decrease real Gross Domestic Product by -0.047 which has a negative relationship with RGDP and increase in Inflation also decreases real Gross Domestic Product by -0.021 magnitude.

From model, the result indicates that R2 is 0.99. This shows that over 99 percent of the variation in real Gross Domestic Product (RGDP) growth is explained by the five independent variables taken together. The coefficient of manufacturing output, Foreign Direct

Investment, and interest rate are rightly signed (that is positive) and significant at 5% level of significance. This shows that the growth of manufacturing output, Foreign Direct Investment, and interest rate are have positive effect on the growth of the economy while exchange rate and inflation rate are negatively sign that is exchange and inflation rate by eroding the purchasing power of the people.

3.2.2. Benin Republic Econometric Model

$RGDP = 1.334 + 1.043MA + 0.0001FDI - 0.218EXR - 0.0005INTR - 0.002INFR + U_t$
(1.727) (19.003) (-0.124) (-1.754) (-0.140) (-1.340)
T-statistics are in parenthesized
$R^2 = 0.998$ Adjusted $R^2 = 0.996$
F-Statistics = 832.50   D-W = 2.06

The Benin Republic economic model above, shows that Manufacturing output increased real Gross Domestic Product by 1.04 magnitude, Foreign Direct Investment increase real Gross Domestic Product by 0.0001 magnitude, while increase in Exchange rate and interest rate decrease real Gross Domestic Product by -0.0218 and -0.0005 respectively which has a negative relationship with RGDP and increase in Inflation also decreases real Gross Domestic Product by -0.002 magnitude.

From model, the result indicates that R2 is 0.99. This shows that over 99 percent of the variation in real Gross Domestic Product (RGDP) growth is explained by the five independent variables taken together. The coefficient of manufacturing output, Foreign Direct Investment, and interest rate are rightly signed (that is positive) and significant at 5% level of significance. This shows that the growth of manufacturing output, Foreign Direct Investment, and interest rate are have positive effect on the growth of the economy while exchange rate and inflation rate are negatively sign that is exchange and inflation rate by eroding the purchasing power of the people.

3.2.3. Cabo Verde Econometric Model

$RGDP = 7.578 + 0.536MA + 0.002FDI - 1.311EXR - 0.016INTR - 0.009INFR + Ut$
(2.241) (3.006) (0.030) (-1.721) (-1.382) (-0.508)
T-statistics are in parenthesized
R2 =0.990   Adjusted R2 = 0.982
F-Statistics = 122.19   D-W = 2.00

The Cabo Verde economic model above, shows that Manufacturing output increased real Gross Domestic Product by 0.536 magnitude, Foreign Direct Investment increase real Gross Domestic Product by 0.002 magnitude, while increase in Exchange rate and interest rate decrease real Gross Domestic Product by -1.311 and -

0.016 respectively which has a negative relationship with RGDP and increase in Inflation also decreases real Gross Domestic Product by -0.009magnitude.

From model, the result indicates that R^2 is 0.99. This shows that over 99 percent of the variation in real Gross Domestic Product (RGDP) growth is explained by the five independent variables taken together. The coefficient of manufacturing output, Foreign Direct Investment, and interest rate are rightly signed (that is positive) and significant at 5% level of significance. This shows that the growth of manufacturing output, Foreign Direct Investment, and interest rate are have positive effect on the growth of the economy while exchange rate and inflation rate are negatively sign that is exchange and inflation rate by eroding the purchasing power of the people.

3.2.4. The Gambian Econometric Model

RGDP=2.325+0.834MA+0.223FDI+0.066EXR-
0.01INTR+0.015INFR+U_t
(1.173) (3.466) (0.651) (-0.067) (-1.336) (1.208)
T-statistics are in parenthesized
R^2 =0.863   Adjusted R^2 = 0.777
F-Statistics = 10.07   D-W = 1.86

The Gambian economic model above, shows that Manufacturing output increased real Gross Domestic Product by 0.834 magnitude, Foreign Direct Investment increase real Gross Domestic Product by 0.223 magnitude, Exchange rate increase real Gross Domestic Product by 0.0.066 magnitude, while increase interest rate decrease real Gross Domestic Product by -0.01which has a negative relationship with RGDP and increase in Inflation also increases real Gross Domestic Product by -0.015magnitude.

From model, the result indicates that R^2 is 0.86. This shows that over 86 percent of the variation in real Gross Domestic Product (RGDP) growth is explained by the five independent variables taken together. The coefficient of manufacturing output, Foreign Direct Investment, and interest rate are rightly signed (that is positive) and significant at 5% level of significance. This shows that the growth of manufacturing output, Foreign Direct Investment, and interest rate are have positive effect on the growth of the economy while exchange rate and inflation rate are negatively sign that is exchange and inflation rate by eroding the purchasing power of the people.

3.2.5. Sierra Leone Econometric Model

RGDP=-1.62+0.002RGDP$_{t-1}$+0.98MA+0.079FDI+1.17EXR+0.0008INTR-
0.006INFR+U_t
(-1.582) (0.278) (4.681) (-1.341) (2.625) (0.103)(-1.416)
T-statistics are in parenthesized

R^2 =0.987   Adjusted R^2 = 0.976
F-Statistics = 91.19   D-W = 1.53

The Sierra Leone economic model above shows that Manufacturing output increased real Gross Domestic Product by 0.98 magnitude, Foreign Direct Investment increase real Gross Domestic Product by 0.079 magnitude Exchange and interest rate by 1.17 and 0.008 respectively while increase in Inflation also decreases real Gross Domestic Product by -0.006magnitude.

From model, the result indicates that R^2 is 0.99. This shows that over 99 percent of the variation in real Gross Domestic Product (RGDP) growth is explained by the five independent variables taken together. The coefficient of manufacturing output, Foreign Direct Investment, and interest rate are rightly signed (that is positive) and significant at 5% level of significance. This shows the growth of manufacturing output, Borensztein, el al. (1998)shown that direct investment, and interest rate have positive effect on the growth of the economy while exchange rate and inflation rate have negatively sign by eroding the purchasing power of the people.

3.2.6. Liberian Econometric Model

RGDP =1.74+0.11RGDP$_{t-1}$ +0.66MA+0.032FDI+
1.496EXR+0.017INTR-0.001INFR+Ut
(1.677) (-6.645) (6.416) (1.040) (2.765) (1.084) (-0.279)
T-statistics are in parenthesized
R^2 =0.987   Adjusted R^2 = 0.976
F-Statistics = 91.19   D-W = 1.53

The Liberian economic model above shows that Manufacturing output increased real Gross Domestic Product by 0.66 magnitude, Foreign Direct Investment increase real Gross Domestic Product by 0.032 magnitude Exchange and interest rate by 1.496 and 0.017 respectively while increase in Inflation also decreases real Gross Domestic Product by -0.001magnitude.

From model, the result indicates that R^2 is 0.99. This shows that over 99 percent of the variation in real Gross Domestic Product (RGDP) growth is explained by the five independent variables taken together. The coefficient of manufacturing output, Foreign Direct Investment, and interest rate are rightly signed (that is positive) and significant at 5% level of significance. This shows that the growth of manufacturing output, Foreign Direct Investment, and interest rate are have positive effect on the growth of the economy while exchange rate and inflation rate are negatively sign that is exchange and inflation rate by eroding the purchasing power of the people.

3.2.7. Co'te Divoire Econometric Model

RGDP=-1.918+0.16RGDP$_{t-1}$+1.32MA+0.10FDI+
0.16EXR-002INTR-0.0009INFR+U_t
(-1.250) (7.768) (10.142) (-2.001) (0.967) (-0.397) (0.289)

T-statistics are in parenthesized
R^2 =0.992   Adjusted R^2 = 0.986
F-Statistics = 162.45   D-W = 2.03

The Ivoirian economic model above, shows that Manufacturing output increased real Gross Domestic Product by 1.32 magnitude, Foreign Direct Investment increase real Gross Domestic Product by 0.010 magnitude and Exchange rate by 0.16 magnitude while interest and inflation rate decrease real Gross Domestic Product by -0.002 and -0.0009 respectively which has a negative relationship with RGDP.

From model, the result indicates that R^2 is 0.99. This shows that over 99 percent of the variation in real Gross Domestic Product (RGDP) growth is explained by the five independent variables taken together. The coefficient of manufacturing output, Foreign Direct Investment, and interest rate are rightly signed (that is positive) and significant at 5% level of significance. This shows that the growth of manufacturing output, Foreign Direct Investment, and interest rate are have positive effect on the growth of the economy while exchange rate and inflation rate are negatively sign that is exchange and inflation rate by eroding the purchasing power of the people.

3.2.8. Niger Econometric Model

$$RGDP=4.531+0.689MA+0.051FDI-0.451EXR+0.013INTR+1.53INFR+U_t$$
(4.011) (6.379) (2.429) (-2.333 (1.283) (0.007)
T-statistics are in parenthesized
R^2 =0.990   Adjusted R^2 = 0.984
F-Statistics = 165.21   D-W = 1.97

Niger economic model above shows that Manufacturing output increased real Gross Domestic Product by 0.69 magnitude, Foreign Direct Investment increase real Gross Domestic Product by 0.051 magnitude, interest rate decreases real Gross Domestic Product by 0.013 and inflation rate by 1.53 respectively while increase Exchange rate increase real Gross Domestic Product by -0.451 magnitude.

From model, the result indicates that R^2 is 0.99. This shows that over 99 percent of the variation in real Gross Domestic Product (RGDP) growth is explained by the five independent variables taken together. The coefficient of manufacturing output, Foreign Direct Investment, and interest rate are rightly signed (that is positive) and significant at 5% level of significance. This shows that the growth of manufacturing output, Foreign Direct Investment, and interest rate are have positive effect on the growth of the economy while exchange rate and inflation rate are negatively sign that is exchange and inflation rate by eroding the purchasing power of the people.

3.2.9. Guinea-BissauEconometric Model

$$RGDP=-1.808+0.934MA+0.070FDI+1.019EXR-0.0005INTR+0.011INFR+U_t$$
(-0.498)(4.049)(1.601) (1.483) (-0.547) (2.225)
T-statistics are in parenthesized
R^2 =0.931   Adjusted R^2 = 0.882
F-Statistics = 19.01   D-W = 1.50

Guinea-Bissau economic model above shows that Manufacturing output increased real Gross Domestic Product by 0.934 magnitude, Foreign Direct Investment increase real Gross Domestic Product by 0.070 magnitude and inflation rate by 0.011 respectively while increase interest rate decrease real Gross Domestic Product by -0.0005.

From model, the result indicates that R^2 is 0.93. This shows that over 93 percent of the variation in real Gross Domestic Product (RGDP) growth is explained by the five independent variables taken together. The coefficient of manufacturing output, Foreign Direct Investment, and interest rate are rightly signed (that is positive) and significant at 5% level of significance. This shows that the growth of manufacturing output, Foreign Direct Investment, and interest rate are have positive effect on the growth of the economy while exchange rate and inflation rate are negatively sign that is exchange and inflation rate by eroding the purchasing power of the people.

3.2.10. Togo Econometric model

$$RGDP_{t-1} =-258.72+0.55RGDP_{t-2}+20.59MA+1.44FDI+25.79EXR+0.1.35INTR-0.076INFR+U_t$$
 (-1.205) (1.899) (1.152) (0.615) (0.977) (1.184) (-0.249)
T-statistics are in parenthesized
R^2 =0.612   Adjusted R^2 = 0.279
F-Statistics = 1.84   D-W = 2.45

The model the above when dependent variable was lag by previous year as shown in above equation above, Manufacturing output decreased real Gross Domestic Product by 20.59 magnitude, Foreign Direct Investment increase real Gross Domestic Product by 0.1.44 magnitude, Exchange rate decrease real Gross Domestic Product by 25.79 while Interest rate and inflation rate decrease real Gross Domestic Product by -008 and -0.076 respectively which has a negative relationship with RGDP.

From the model above, the result indicates that R^2 is 0.61. This shows that over 61percent of the variation in real Gross Domestic Product (RGDP) growth is explained by the five independent variables taken together. The coefficient of manufacturing output, Foreign Direct Investment are rightly signed in the long run (that is negative) and significant at 5% level of significance. This

shows that the growth of manufacturing output, Foreign Direct Investment, and interest rate are have positive effect on the growth of the economy while exchange rate and inflation rate are negatively sign that is exchange and inflation rate by eroding the purchasing power of the people.

4. Result Interpretation:

See Appendices 1-10 below show the various values of both dependent and independent variables. It shows GDP at constant prices, manufacturing output, Foreign Direct Investment, Exchange Rate, interest, and inflation rate.

4.1. Summary of The Regression Result Models

1. Nigerian Model

$RGDP = 2.076+0.904MO+0.045FDI-0.047EXR+0.005BIR-0.021IR+U_t$

(10.396) (14.962) (2.643) (-0.418) (0.056) (-1.025)

2. Benin Republic Econometric Model

$RGDP=1.334+1.043MA+0.0001FDI-0.218EXR-0.0005INTR-0.002INFR+U_t$

(1.727) (19.003) (-0.124) (-1.754) (-0.140) (-1.340)

3. Cabo Verde Econometric Model

$RGDP =7.578+0.536MA+0.002FDI-1.311EXR-0.016INTR-0.009INFR+U_t$

(2.241) (3.006)(0.030) (-1.721) (-1.382) (-0.508)

4. The Gambian econometric Model

$RGDP =2.325+0.834MA+0.223FDI+0.066EXR-0.01INTR+0.015INFR+U_t$

(1.173) (3.466) (0.651) (-0.067) (-1.336) (1.208)

5. Sierra Leone econometric Model

$RGDP =-1.62+0.002RGDP_{t-1}+0.98MA+0.079FDI+1.17EXR+0.0008INTR-0.006INFR+U_t$

(-1.582) (0.278) (4.681) (-1.341) (2.625) (0.103) (-1.416)

6. Liberian Econometric Model

$RGDP =1.74+0.11RGDP_{t-1}+0.66MA+0.032FDI+1.496EXR+0.017INTR-0.001INFR+U_t$

(1.677) (-6.645)(6.416) (1.040) (2.765) (1.084)(-0.279)

7. Co'te divoire Econometric Model

$RGDP =-1.918+0.16RGDP_{t-1}+1.32MA+0.10FDI+0.16EXR-002INTR-0.0009INFR+U_t$

(-1.250) (7.768) (10.142) (-2.001) (0.967) (-0.397)(0.289)

8. Niger Econometric Model

$RGDP =4.531+0.689MA+0.051FDI-0.451EXR+0.013INTR+1.53INFR+U_t$

(4.011) (6.379) (2.429) (-2.333) (1.283) (0.007)

9. Guinea Bissau Econometric Model

$RGDP =-1.808+0.934MA+0.070FDI+1.019EXR-0.0005INTR+0.011INFR+U_t$

(-0.498) (4.049) (1.601) (1.483) (-0.547) (2.225)

10. Togo Econometric Model

$RGDP_{t-1} = -258.72+0.55RGDP_{t-2}+20.59MA+1.44FDI+25.79EXR+0.1.35INTR-0.076INFR+U_t$

(-1.205) (1.899) (1.152) (0.615) (0.977) (1.184) (-0.249)

4.2. Test of Goodness of Fit (R^2)

The coefficient of determination (R^2) in models shows that the models were significant at ($R^2=0.997$or 995%) this shows that 99% of the variation in the dependent variable that is real GDP were explained by the various independent variables. 0.003 or 3% was not explained due to extraneous factors not captured in the model above.

4.3. F-statistics

At 5% of significant, the models above showed that there was significant relationship between real GDP and manufacturing output, Foreign Direct Investment, Exchange Rate, Interest Rate and Inflation. Since F-test =T-cal (599.02)>T-tab (3.14) this re-confirmed the value of R^2= 99% which was significant. This is because the f-cal (599.02)>f-tab (3.14) at 5% level of significance.

5. Summary

This work focused on the impact of industrialization on economic growth and stability in the ten selected Economic Community of West Africa States members' states (2000-2013).Essentially, some macroeconomic indicators such as real Gross Domestic Product (GDP) is the dependent variable while manufacturing output, Foreign Direct Investment, Exchange rate, interest rate and inflation rate were independent variables.

6. Conclusion

The conclusion emerging from this study is that impact of industrialization has a negative impact on economic growth in the Economic Community of West Africa members' states. Therefore, policy measures should be put in place across the members' states to improve human capital development across the region with a view adapt modern technology and to diffuse it in the industrial output to improve the overall productivity of all economic activity sectors and ensure sustainable development across its members' state.

7. Recommendations

Base on the outcome of this study, the following recommendation were proffered. Regional government within the region should create a good environment for industrial growth through:

Provision of good governance mechanism and a good legal framework to protect property rights, improve the judicial and the security system to minimize the crime rate terrorism in the region, improve on social and economic infrastructure especially electricity supply and the transport system and good and functional education. This can reduce the cost of production, improve diffusion of technology and make the region manufacturers' products more competitive. Since the sector have capacity of linkage within and between sectors of the economy can generate values, create wealth and reduce the poverty level of the members' state populace.

Conflicts of Interest:

Authors declared no conflicts of interest.

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List of Appendices

Appendix 1: Nigeria

Dependent Variable: RGDP			
Method: Least Squares			
Date: 02/29/16 Time: 15:21			
Sample: 2000 2013			
Included observations: 14			
Variable	Coefficient	Std. Error	t-Statistic	Prob.
MANGDP	0.473982	0.144013	3.291243	0.0110
FDI	0.154667	0.124843	1.238892	0.2505
EXCR	0.733634	0.630960	1.162726	0.2784
INTR	-0.620135	0.644666	-0.961948	0.3642
INFR	-0.195735	0.125028	-1.565527	0.1561
C	4.329268	1.642579	2.635653	0.0299
R-squared	0.977872	Mean dependent variable		11.31857
Adjusted R-squared	0.964042	S.D. dependent variable		0.295241
S.E. of regression	0.055986	Akaike info criterion		-2.629916
Sum squared residuals	0.025075	Schwarz criterion		-2.356034
Log likelihood	24.40941	F-statistic		70.70567
Durbin-Watson stat	2.075556	Prob(F-statistic)		0.000002
Source: E-Views 7.0			

Appendix 2:   Benin Republic

Dependent Variable: RGDP			
Method: Least Squares			
Date: 02/29/16 Time: 15:25			
Sample: 2000 2013			
Included observations: 14			
Variable	Coefficient	Std. Error	t-Statistic	Prob.
MANGDP	1.043269	0.054900	19.00302	0.0000
FDI	0.000156	0.001258	0.123937	0.9044
EXCR	-0.218350	0.124429	-1.754815	0.1174
INTR	-0.000580	0.004140	-0.140179	0.8920
INFR	-0.002127	0.001587	-1.340309	0.2170
C	1.333995	0.772580	1.726674	0.1225
R-squared	0.998082	Mean dependent variable		9.682143
Adjusted R-squared	0.996883	S.D. dependent variable		0.184648
S.E. of regression	0.010309	Akaike info criterion		-6.014041
Sum squared residuals	0.000850	Schwarz criterion		-5.740159
Log likelihood	48.09828	F-statistic		832.5000
Durbin-Watson stat	2.063605	Prob(F-statistic)		0.000000
Source: E-Views 7.0			

Appendix 3:   Cabo Verde

Dependent Variable: RGDP				
Method: Least Squares				
Date: 02/29/16 Time: 15:28				
Sample(adjusted): 2001 2013				
Included observations: 12				
Excluded observations: 1 after adjusting endpoints				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
MANGDP	0.535700	0.178533	3.000569	0.0240
FDI	0.002411	0.079604	0.030284	0.9768
EXCR	-1.310642	0.761432	-1.721285	0.1360
INTR	-0.016404	0.011864	-1.382747	0.2160
INFR	-0.000850	0.001674	-0.507785	0.6297
C	7.577909	3.381488	2.240998	0.0663
R-squared	0.990275	Mean dependent variable		9.119167
Adjusted R-squared	0.982171	S.D. dependent variable		0.165225
S.E. of regression	0.022062	Akaike info criterion		-4.483080
Sum squared residuals	0.002920	Schwarz criterion		-4.240627
Log likelihood	32.89848	F-statistic		122.1926
Durbin-Watson stat	2.002103	Prob(F-statistic)		0.000006

 Source: E-Views 7.0

Appendix 4:   The Gambia

Dependent Variable: RGDP				
Method: Least Squares				
Date: 02/29/16 Time: 15:30				
Sample: 2000 2013				
Included observations: 14				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
MANGDP	0.834672	0.240836	3.465722	0.0085
FDI	0.022687	0.034805	0.651833	0.5328
EXCR	0.065848	0.098369	0.669400	0.5221
INTR	-0.010227	0.007656	-1.335706	0.2184
INFR	0.015654	0.012958	1.208097	0.2615
C	2.324851	1.981397	1.173339	0.2744
R-squared	0.862917	Mean dependent variable		8.875000
Adjusted R-squared	0.777240	S.D. dependent variable		0.096377
S.E. of regression	0.045487	Akaike info criterion		-3.045240
Sum squared residuals	0.016553	Schwarz criterion		-2.771359
Log likelihood	27.31668	F-statistic		10.07178
Durbin-Watson stat	1.863362	Prob(F-statistic)		0.002678

 Source: E-Views 7.0

Appendix 5:   Sierra Leone

Dependent Variable: RGDP				
Method: Least Squares				
Date: 02/29/16 Time: 15:40				
Sample: 2000 2013				
Included observations: 14				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
RGDPT	0.001981	0.007119	0.278287	0.7888
MANGDP	0.981032	0.209578	4.680980	0.0023
FDI	0.079818	0.059535	1.340704	0.2219
EXCR	1.173607	0.447041	2.625280	0.0341
INTR	0.000802	0.007784	0.102964	0.9209
INFR	-0.005905	0.003440	-1.716236	0.1298
C	-1.615103	1.020866	-1.582091	0.1576
R-squared	0.987367	Mean dependent variable		9.295714
Adjusted R-squared	0.976539	S.D. dependent variable		0.212448
S.E. of regression	0.032541	Akaike info criterion		-3.705802
Sum squared residuals	0.007412	Schwarz criterion		-3.386274
Log likelihood	32.94062	F-statistic		91.18505
Durbin-Watson stat	1.530793	Prob(F-statistic)		0.000003

Source: E-Views 7.0

Appendix 6:   Liberia

Dependent Variable: RGDP				
Method: Least Squares				
Date: 02/29/16 Time: 15:45				
Sample: 2000 2013				
Included observations: 14				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
RGDPT	-0.111389	0.016762	-6.645443	0.0003
MANGDP	0.657698	0.102498	6.416716	0.0004
FDI	0.032781	0.031520	1.040021	0.3329
EXCR	1.496511	0.541163	2.765359	0.0279
INTR	0.017185	0.015852	1.084094	0.3142
INFR	-0.001327	0.004752	-0.279277	0.7881
C	1.743445	1.039655	1.676947	0.1375
R-squared	0.974468	Mean dependent variable		8.915000
Adjusted R-squared	0.952583	S.D. dependent variable		0.212232
S.E. of regression	0.046214	Akaike info criterion		-3.004196
Sum squared residuals	0.014950	Schwarz criterion		-2.684667
Log likelihood	28.02937	F-statistic		44.52714
Durbin-Watson stat	1.687056	Prob(F-statistic)		0.000032

Source: E-Views 7.0

Appendix 7:   Co'ted'Ivoire

Dependent Variable: RGDP				
Method: Least Squares				
Date: 02/29/16 Time: 15:48				
Sample: 2000 2013				
Included observations: 14				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
RGDPT	0.016106	0.002073	7.768305	0.0001
MANGDP	1.321554	0.130300	10.14241	0.0000
FDI	0.102760	0.051348	2.001238	0.0855
EXCR	0.160552	0.165880	0.967881	0.3653
INTR	-0.002405	0.006057	-0.397092	0.7031
INFR	0.000992	0.003435	0.288905	0.7810
C	-1.918154	1.534140	-1.250312	0.2514
R-squared	0.992870	Mean dependent variable		10.26071
Adjusted R-squared	0.986758	S.D. dependent variable		0.135730
S.E. of regression	0.015619	Akaike info criterion		-5.173791
Sum squared residuals	0.001708	Schwarz criterion		-4.854262
Log likelihood	43.21654	F-statistic		162.4506
Durbin-Watson stat	2.035882	Prob(F-statistic)		0.000000

Source: E-Views 7.0

Appendix 8:   Niger

Dependent Variable: RGDP				
Method: Least Squares				
Date: 02/29/16 Time: 15:50				
Sample: 2000 2013				
Included observations: 14				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
MANGDP	0.689872	0.108148	6.378964	0.0002
FDI	0.051173	0.021065	2.429293	0.0412
EXCR	-0.450515	0.193037	-2.333823	0.0479
INTR	0.012636	0.009845	1.283601	0.2352
INFR	1.53E-05	0.002164	0.007077	0.9945
C	4.531584	1.129771	4.011064	0.0039
R-squared	0.990408	Mean dependent variable		9.583571
Adjusted R-squared	0.984414	S.D. dependent variable		0.214175
S.E. of regression	0.026739	Akaike info criterion		-4.107878
Sum squared residuals	0.005720	Schwarz criterion		-3.833996
Log likelihood	34.75514	F-statistic		165.2121
Durbin-Watson stat	1.973486	Prob(F-statistic)		0.000000

Source: E-Views 7.0

Appendix 9:   Guinea-Bissau

Dependent Variable: RGDP				
Method: Least Squares				
Date: 02/29/16 Time: 15:53				
Sample(adjusted): 2001 2013				
Included observations: 13 after adjusting endpoints				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
MANGDP	0.934282	0.230723	4.049372	0.0049
FDI	0.069959	0.043693	1.601142	0.1534
EXCR	1.018917	0.687137	1.482844	0.1817
INTR	-0.000459	0.000839	-0.547826	0.6008
INFR	0.010878	0.004889	2.224971	0.0614
C	-1.808189	3.629320	-0.498217	0.6336
R-squared	0.931411	Mean dependent variable		8.826923
Adjusted R-squared	0.882419	S.D. dependent variable		0.144533
S.E. of regression	0.049560	Akaike info criterion		-2.867213
Sum squared residuals	0.017194	Schwarz criterion		-2.606467
Log likelihood	24.63688	F-statistic		19.01152
Durbin-Watson stat	1.504904	Prob(F-statistic)		0.000604

Source: E-Views 7.0

Appendix 10:   Togo

Dependent Variable: RGDPT				
Method: Least Squares				
Date: 02/29/16 Time: 16:02				
Sample: 2000 2013				
Included observations: 14				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
RGDP2	0.545669	0.287290	1.899366	0.0993
MANGDP	20.59204	17.86963	1.152349	0.2870
FDI	1.441369	2.339891	0.615998	0.5574
EXCR	25.78667	26.40374	0.976629	0.3613
INTR	1.348549	1.139290	1.183674	0.2752
INFR	-0.075637	0.303420	-0.249283	0.8103
C	-258.7163	214.6040	-1.205552	0.2672
R-squared	0.611579	Mean dependent variable		8.688571
Adjusted R-squared	0.278646	S.D. dependent variable		2.505962
S.E. of regression	2.128377	Akaike info criterion		4.655449
Sum squared residuals	31.70992	Schwarz criterion		4.974978
Log likelihood	-25.58815	F-statistic		1.836945
Durbin-Watson stat	2.450548	Prob(F-statistic)		0.222276

Source: E-Views 7.0