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ECONOMIC DIVERSIFICATION AND INDUSTRIAL GROWTH IN NIGERIA

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ABSTRACT

Nigeria's inability to diversify its economy and relying on a monoproduct-crude oil for economic sustenance over past four decades has impeded Nigeria's resilience over shocks occasioned by disruptive changes in international oil prices. The main objective of the study was to assess the extent of relationship existing between economic diversification and industrial growth in Nigeria. The study used time series data covering a period of 18years (2000-2017) extracted from Central Bank of Nigeria statistical bulletin and adopted ordinary least square (OLS) multiple regression model for data analysis. Findings of the study revealed that there is a statistical significant relationship between economic diversification and industrial growth in Nigeria. This implies that economic diversification could accelerate industrial growth in Nigeria. The study recommends to Nigerian policy makers to treat economic diversification as a priority in national economic plan in order to accelerate industrial growth and sustainability of Nigeria's economy.

Keywords: Economic diversification, Industrial Growth, Gross Domestic Product.

INTRODUCTION

1.1 Background of Study

Agriculture had been the main income earner in Nigeria in the colonial era up to few years after independence in 1960. Both the colonial administration in Nigeria and the regional governments in Nigeria up to 1967 relied on the production and exportation of Nigeria's primary commodities including palm oil and kernel, cocoa, groundnuts, hides and skins, timber etc to earn foreign exchange and other revenues for the administration of the country. The oil boom of the 1970s made Nigeria to abandon agricultural sector as a major income earner.

All government attention from the 1970s to date has been relying almost solely on crude oil exportation for foreign exchange which has contributed over 90 percent of foreign exchange earning and over 60 percent of national income for some decades now.

The danger in this monoproduct economy lies in the fact that Nigeria has no control over fluctuations in international oil prices. Nigerian economic history has shown that the nation has suffered in periods of low oil prices arising from oil glut as we experienced during Shehu Shagari's Administration (1979 – 1983) as the economy plunged into recession. Ikon (2014) observes that Nigerian economy suffered one and a half decades of depression (1984 – 1997) during the administrations of:

i) General Mohammadu Buhari (January, 1984 – August 27th, 1985).

ii) General Ibrahim Badamasi Babangida (August, 1985 – August 1993).

iii) Chief Ernest Shonekan, Chairman Interim National Government (August, 1993 – November, 1993).

iv) General Sani Abacha (November 17th 1993 – 1998)

Harsh economic measures were introduced during the depressed economy including structural adjustment programme (SAP) in 1986 (Ikon, 2014). Nigeria had no fall back plan (plan B) during the depression as the nation witnessed wide fluctuations and lower oil prices. If the structure of Nigeria's economy was balanced in such a way that other sectors of the economy were developed Nigeria would have managed the shock to its advantage. This is the reason economic diversification is now a necessity no more wishful thinking.

Recently Nigerian economy plunged into recession again from last quarter of 2015 to first quarter 2017 showing negative GDP growth of – 0.36%, -2.06%, -2.34% and -1.3% for the four quarters of 2016 respectively. 2017 GDP figures were 1.3%, 0.55%, 1.4% and 2.6% for the 4 quarters of 2017 showing gradual exit from recession from second quarter of 2017 (NBS, 2017). Even though Nigeria is technically out of recession, the economy is still growing under 2% GDP in 2018, while our population is growing at about 3% meaning that with all our productive efforts in the economy we cannot feed ourselves. The situation is serious but experts are of the view that economic diversification if well pursued can return the economy to a sustainable growth pattern.

Economic diversification refers to the expansion of economic activity into different sectors, often through government directives (Lee, 2018). The most obvious advantage is to increase the resilience of an economy. The collapse and sharp drop in global oil prices in 2016 greatly adversely affected the economies of oil dependent nations such as Saudi Arabia, Venezuela and Nigeria (Lee, 2018).

Industrialization grows an economy, creates goods and services, provides jobs and incomes, increases the standard of living and produces a healthy population (Abdu & Anam, 2018). In Nigeria, as it is many developing countries, the word "industry" is used as a synonym for manufacturing. This is because manufacturing is the most dynamic component of industrial sector (Obioma, Anyama & Kalu, 2015).

A conscious Nigerian government effort is facilitating industrialization by providing enabling environment in terms of infrastructural facilities including electric power supply, good roads network, water and sanitation can greatly enhance industrial growth in the country. The enabling environment also includes good economic policies, open market economy, security of lives and property of the citizens and investors.

1.2 Statement of the Problem

Nigeria's inability to correct the structural imbalance in its economic base by not diversifying the economy has led Nigeria prostrate and vulnerable to external shocks arising from fluctuations in international oil prices. Nigeria is so dependent on oil to the extent that budgets of the country over the decades are benchmarked to the price of a barrel of crude oil in the international market. When international crude oil prices fall below the benchmark, expected incomes are not realized resulting in lop sided finance of the budget and a recourse to borrowing to finance budget deficits. This dangerous path Nigeria decides to tread is the bane of economic development in the country. The results are obvious: rising unemployment, collapsing industries and firms, wide spread poverty, increased corruption and general insecurity of lives and property. These are the consequences of operating a monoproduct economy. It is against this backdrop that this study is prosecuted to emphasize the necessity of economic diversification in Nigeria's economic policy.

1.3 Objective of the Study

The objective of the study is to assess the extent of relationship between economic diversification and industrial growth in Nigeria.

1.4 Research Question

What is the extent of relationship between economic diversification and industrial growth in Nigeria?

1.5 Hypothesis

H_0: There is no significant relationship between economic diversification and industrial growth in Nigeria.

1.6 Scope of the Study

The study made use of key macroeconomic data in the country extracted from Central Bank of Nigeria statistical bulletin and National Bureau of Statistics (NBS) publications for the period of 18years (2000 – 2017).

REVIEW OF RELATED LITERATURE

2.1 Economic Diversification

A diversified economy is an economy that has a number of different revenue streams and provides nations with the ability for sustainable growth because there is not a reliance on one particular type of revenue (Nwamaka, 2017). Madjd-sadjadi (2016) views economic diversification as an economic complexity, which is the idea that countries should not be dependent upon a small number of products for their economic livelihoods. The more economically complex a country is, the more likely that it will have a low level of volatility in its GDP (Madjd-Sadjadi, 2016).

Lee (2018) agrees with the submissions of Nwakama (2017) and Madjd-sadjadi (2016) and adds that economic diversification of countries comes from government directives of those countries. The most obvious advantages of economic diversification is to increase the resilience of an economy. The collapse and sharp drop in global oil prices in 2016 greatly adversely affected the economics of oil dependent nations such as Saudi Arabia, Venezuela and Nigeria (Lee, 2018).

Economic diversification in its standard usage either in terms of the diversity of economic activities or markets is a significant issue for many developing countries as their economies are generally characterized by lack of it. Developing countries have traditionally relied heavily on the production of primary commodities that are predominantly vulnerable to climate variability and change (Madjd-sadijadi, 2016). Diversifying economies of developing countries including Nigeria into other higher value contributors such as manufacturing, improved technologies and specialized services offerings would certainly frog jump the economies into sustainability, and increase a standard of living of the citizens of developing nations. Nigeria cannot survive in the near future with a monoproduct economy. As developed nations are constantly investing on alternative sources of energy to replace fossil oil, Nigeria must think out of the box and correct its structural imbalance of the economy, invest in innovations and ICT, reward excellence and govern wisely.

Some oil dependent nations except Nigeria have begun to diversify into other sectors such as tourism, financial services and green energy generation. Notable examples are Bahrain, Kuwait, Quatar and Saudi Arabia.

2.2 Industrial Growth

Industrial sector is seen to be a section of the economy which consists of manufacturing that provides goods and services, the structure of the economy should be one which has industry playing a dominant role in its composition (Abdu & Anam, 2018). Ikon (2014) further expands the meaning of industrial sector to include:

i. The primary industrial sector – this sector produces goods from natural resources.
ii. Secondary industrial sector – produces goods which have been manufactured or constructed or assembled.
iii. Tertiary sector - produces services for customers and firms (Ikon, 2014).

Industrial growth refers to profitable expansion of activities in the industrial sector. This expansion would generate wealth and employment, facilitate developing new technologies and reducing poverty incidence. A well planned and government aided transition from primary to secondary industrial sector could be achieved through diversification of the economy. Diversification while moving up the value chain will result in higher incomes, and further economic growth as the economy transits into high value exports development which aided the miraculous growth of the 4 Asian tigers in the 1960s and 1970s (Lee, 2018).

Industrial development which would trigger industrial growth remains a driver of structural change and long run growth in both developed and developing countries (Akekere, Oniore, Oghenebrume, & Stephen, 2017). Obioma, Anyama & Kalu, (2015) argue that manufacturing sector is widely considered to be the ideal industry to drive Africa's development. This is due to the labour intensive export focused nature of the industry. Industrial growth can only be achieved in a country where the enabling environment for industrial processes exist with conscious government backed economic plans.

2.3 Gross Domestic Product (GDP)

Gross domestic product (GDP) is a measure of all the goods and services produced in a country over a specific period of time often annually or quarterly. GDP is also a monetary measure of the market value of all the final goods and services produced in a period of time, often yearly or quarterly. Nominal GDP estimates are commonly used to determine economic performance of a whole country or region and to make international comparison (Wikipedia.org).

Gross domestic product (GDP) can be determined in three ways, each which in principle, give same result. They are:

i. The production (or output or value added)approach.
ii. Income approach.
iii. The speculated expenditure approach (World Bank, 2010).

The most direct of the three is the production approach which sums the output of every class of enterprise to arrive at a total. The expenditure approach works on the principle that all the products must be bought. Therefore, the value of the total product must be equal to people's total expenditure in buying things. The income approach works on the principle that the incomes of the productive factors must be equal to the value of their product and determines GDP by finding the sum of producers' incomes (Wikipedia.org).

2.4 Theoretical Framework

This study is anchored on the Theory of Balanced Growth credited to Rosensten – Rodan (1943). Rosensten – Rodan was the first economist who proposed the theory of balanced growth without using the words "Balanced Growth" in his 1943 article, "Problems of Industrialization of Eastern and South – Eastern Europe" (Jhingan, 2005). The theory of balanced growth states that there should be simultaneous and harmonious development of different sectors of the economy so that all sectors grow in unison. Balance is required between the demand and supply sides. The supply side lays emphasis on the simultaneous development of all inter-related sectors which help in increasing the supply of goods (Jhingan, 2005). The demand side, on the other hand, relates to the provision for larger employment opportunities and increasing incomes so that the demand for goods and services may rise on the part of the people (Jhingan, 2005). The theory is relevant to the study as economic diversification would involve targeted investment in other economic sectors apart from oil in Nigeria.

The theory of balanced growth had been further expanded and criticized by Ragnar Nurkse (1958). Nurse (1958) refuted the argument of balanced growth theory which implied that market mechanism is eliminated and that investments must be affected according to a coordinated plan. Nurkse (1958) maintains that as a means of creating inducements to invest, balanced growth can be said to be relevant primarily to private enterprise system (Jhingan, 2005).

Other criticisms of Balanced Growth Theory are that it would lead to rise in costs with simultaneous establishment of a number of industries which are likely to raise money and real costs of production. Also, the theory is seen to fail as a theory of development (Jhingan, 2005).

2.5 Empirical Review

Esu & Udonwa (2015) studied economic diversification and economic growth in Nigeria. They used time series data for the period covering 31years (1980 – 2011). They deployed error correction mechanism modeling with ordinary least squares (OLS) techniques to obtain numerical estimates of the coefficients in their equations. Findings of the study showed that Nigeria could accelerate her economic growth through diversifying into large scale industrialization of the non oil sector of the economy.

Adewale (2017) investgated the effect of import substitution industrialization on the economic performance of BRICS nations (Brazil, Russia, India, China & South Africa). He used panel data covering a period of 56 years (1960 – 2016) extracted from World Bank Development indicators and deployed OLS estimation. Findings of the study was that import substitution industrialization accelerated industrial growth of BRICS countries.

Abdu & Anam (2018) evaluated Nigerian industrial sector and economic growth in the face of sustainable development goals. The researchers used time series data covering a period of 35yrs (1981 – 2016) extracted from World Bank indicators, 2016. Data were analyzed using OLS multiple regression model. Study found that there was a significant relationship between industrial output and economic growth in Nigeria.

Obioma, Anyanwa & Kalu (2015) examined the effect of industrial development on economic growth of Nigeria. A time series data spanning 30years (1973 – 2013) was used for the study. The data were extracted from CBN statistical bulletin and National Bureau of statistics. Ordinary least square method (OLS) was used to test the influence of the independent variable on the dependent variable. Findings of the study was that industrial output was not statistically significant in terms of its influence on economic growth of Nigeria. The study recommended strategic policy formulation to restructure industrial output on the right track as to impact significantly on economic growth (GDP).

RESEARCH METHODOLOGY

3.1 Research Design

The study drew information from secondary sources mainly textbooks, journal articles, internet sources relating to previous researches on economic diversification and industrial growth in Nigeria. To provide possible solution to the research question in the study, a model was specified in line with the objective of the study.

3.2 Method of Data Collection

Secondary data were sourced from Central Bank of Nigeria statistical bulletin and National Bureau of Statistics publications for the period 2000 – 2017. The method of data collection was by extracting time series figures from the publications of Central Bank of Nigeria statistical bulletin, and National Burea of Statistics publications.

3.3 Method of Data Analysis

Regression analysis was used to determine the relationship that exists between the variables of study.

3.4 Model Specification

Dependent variable: Industrial Growth proxy by GDPCBP

GDPCBP = f(MS, INFL, IMP, EXP, CPS, CBLM,…et) (1).

Mathematically, the equation becomes:

$$GDPCBP = a_0 + a_1MS + a_2INFL + a_3IMP + a_4EXP + a_5CPS + a_6CBLM + et \ldots. (2)$$

Specifying Equation 2 in log form, the equation now becomes:

$$LogGDPCBP = Log\ a_0 + a_1LogMS + a_2LogINFL + a_3LogIMP + a_4LogEXP + a_5LogCPS + a_6LogCBLM + et \ldots. (3)$$

Where:

GDPCBP	=	Gross Domestic Product at Current Basic Price
MS	=	Money Supply
INFL	=	Inflation
IMP	=	Import
EXP	=	Export
CPS	=	Credit to Private Sector
CBLM	=	Commercial Bank Loans to Manufacturing
et	=	Error (Stochastic Term)

Data Analysis

Dependent Variable: GDPCBP
Method: Lest Squares
Sample: 2000 – 2017

	GDPCBP	MS	INFLA	IMPORT	EXPORT	CPS	CBLM
Mean	45790.31	8657.200	12.39838	5781.140	8436.133	8044.000	849.9951
Median	39157.88	8008.204	11.80000	5480.656	8606.320	6941.383	932.7995
Maximum	101489.5	21607.68	23.81136	11076.07	15262.01	21082.72	2215.741
Minimum	6897.482	878.4573	6.563952	985.0224	1744.178	530.3733	141.2948
Std. Dev.	32184.97	6932.017	4.376921	3832.548	4685.106	7181.515	623.3906
Skewness	0.385308	0.437392	1.032158	0.162858	0.006768	0.458106	0.744116
Kurtosis	1.758939	1.829284	3.804176	1.375673	1.875041	1.741233	2.575810
Jarque-Bera	1.511641	1.512876	3.476572	1.944043	0.896549	1.716956	1.696297
Probability	0.469625	0.469335	0.175821	0.378318	0.638729	0.423807	0.428207
Sum	778435.2	147172.4	210.7724	98279.38	143414.3	136748.0	14449.92
Sum Sq. Dev.	1.66E+10	7.69E+08	306.5189	2.35E+08	3.51E+08	8.25E+08	6217853.
Observations	17	17	17	17	17	17	17

Source: E-Views 9

The mean of GDP at current basic prices is ₦45790.31; the average money supply is ₦8657.2; the average inflation rate is ₦12.4; the average import and export values were ₦5781.140 and ₦8436.133. The

average private sector credit value is ₦8044; and, the average commercial bank loan to manufacturing is ₦850. The p-values of the Jarque-Bera statistics were all greater than .05; indicating that all the variables [GDPCBP, MS, INFLA, IMPORT, EXPORT, CPS, CBLM] are normally distributed.

	GDPCBP	MS	INFLA	IMPORT	EXPORT	CPS	CBLM
GDPCBP	1.000000						
MS	0.994776	1.000000					
INFLA	-0.258530	-0.188838	1.000000				
IMPORT	0.951171	0.943910	-0.303739	1.000000			
EXPORT	0.763793	0.734551	-0.450938	0.871067	1.000000		
CPS	0.990818	0.996626	-0.179198	0.936218	0.728139	1.000000	
CBLM	0.966550	0.980827	-0.107656	0.885073	0.627908	0.970753	1.000000

Source: E-Views 9

The table shows the degree of relationship among the variables; MS is strongly positively related to GDPCBP; INFLA is negatively related to GDPCBP; IMPORT and EXPORT are both strongly and positively related to GDPCBP; CPS is strongly and positively related to GDPCBP and CBLM is strongly and positively related to GDPCBP. INFLA is negatively related to MS; IMPORT and EXPORT are strongly and positively related to MS; CPS is strongly and positively related to MS; and CBLM is strongly and positively related to MS. All the variables were negatively related to INFLA (with EXPORT having the greatest coefficient). EXPORT, CPS, and CBLM are all strongly and positively related to IMPORT. CPS and CBLM were positively related to EXPORT; and, CPS was strongly and positively related to CBLM.

The Unit Root Test showed that all the variables achieved stationarity after second differencing (Trend and Intercept).

Variable	**Coefficient**	**Std. Error**	**t-Statistic**	**Prob.**
C	165.5867	407.4073	0.406440	0.6951
D(MS,2)	3.506880	1.229196	2.852987	0.0214**
D(INFLA,2)	-118.6019	46.90860	-2.528362	0.0353**
D(IMPORT,2)	0.334321	0.409744	0.815927	0.4382n.s.
D(EXPORT,2)	0.154020	0.227514	0.676971	0.5175 n.s.
D(CPS,2)	-0.343516	0.489151	-0.702270	0.5024 n.s.
D(CBLM,2)	-8.336800	4.798147	-1.737504	0.1205 n.s.
R-squared	0.729706	Mean dependent var		407.1915
Adjusted R-squared	0.526985	S.D. dependent var		2235.864
S.E. of regression	1537.739	Akaike info criterion		17.81874
Sum squared resid	18917133	Schwarz criterion		18.14916
Log likelihood	-126.6405	Hannan-Quinn criter.		17.81522
F-statistic	3.599565	Durbin-Watson stat		1.907349
Prob(F-statistic)	0.049338			

Source: E-Views 9 (n.s. – not significant)

The model R squared value is of .729; and, Adjusted R squared value is .526; thus, the independent variables in the model explain the approximately 53% of variance in the dependent variable (GDPCBP). The statistical significance of the model is tested using the F-statistic, the value of F is 3.59 ($p<.05$). The model is therefore statistically significant. The variables marked ** were significant at the .05 level. The variables marked n.s. were statistically not significant.

Discussion of Findings

The study found that there is a statistical significant relationship between economic diversification and industrial growth in Nigeria. This implies that economic diversification could improve industrial growth in Nigeria. This finding is in line with the findings of Esu and Udonwa (2015) who studied economic diversification and economic growth in Nigeria and found that Nigeria could accelerate her economic growth through diversifying into large scale industrialization of the non oil sector of the economy.

The finding also aligns with the findings of Adewale (2017) who examined the effect of import substitution industrialization on the economic performance of BRICS countries, and found that import substitution industrialization accelerated industrial growth of BRICS countries – Brazil, Russia, India, China and South Africa.

Conclusion

From the findings, the study concludes that a conscious effort by government of Nigeria on economic diversification would greatly improve industrial growth in the country.

Recommendation / Advocacy

The study recommends to the Nigeria government to make economic diversification a priority item in national economic plan in order to stimulate industrial growth which would provide employment and create wealth for the millions of poor Nigerians who cannot afford basic necessities of life.

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APPENDIX

DATE	GDPCBP	MS	RGDP	INFLA	CPS	CBLM	IMPORT	EXPORT
2000	6,897.48	878.46	5.52	14.5	530.37	141.3	985.0	1,945.7
2001	8,134.14	1,269.32	6.67	16.5	764.96	206.9	1,358.2	1,868.0
2002	11,332.25	1,505.96	14.60	12.2	930.49	233.5	1,512.7	1,744.2
2003	13,301.56	1,952.92	9.50	23.8	1,096.54	294.3	2,080.2	3,087.9
2004	17,321.30	2,131.82	10.44	10.0	1,421.66	332.1	1,987.0	4,602.8
2005	22,269.98	2,637.91	7.01	11.6	1,838.39	352.0	2,800.9	7,246.5
2006	28,662.47	3,797.91	6.73	8.5	2,290.62	445.8	3,108.5	7,324.7
2007	32,995.38	5,127.40	7.32	6.6	3,680.09	487.6	3,912.0	8,309.8
2008	39,157.88	8,008.20	7.20	15.1	6,941.38	932.8	5,593.2	10,387.7
2009	44,285.56	9,411.11	8.35	13.9	9,147.42	993.5	5,480.7	8,606.3
2010	54,612.26	11,034.94	9.54	11.8	10,157.02	987.6	8,164.0	12,011.5
2011	62,980.40	12,172.49	5.31	10.3	10,660.07	1,053.2	10,995.9	15,236.7
2012	71,713.94	13,895.39	4.21	12.0	14,649.28	1,068.3	9,766.6	15,139.3
2013	80,092.56	15,160.29	5.49	7.96	15,751.84	1,179.7	9,439.4	15,262.0
2014	89,043.62	17,679.29	6.22	7.98	17,129.68	1,647.5	10,538.8	12,960.5
2015	94,144.96	18,901.30	2.79	9.55	18,675.47	1,878.1	11,076.1	8,845.2
2016[2]	101,489.49	21,607.68	-1.51	18.55	21,082.72	2,215.7	9,480.4	8,835.6
2017	104.973.8927457846	23,76.989356734	1.92	15.37	23,638	2,171.4	10,804.8	13,988.1

Source: Central Bank of Nigeria statistical bulletin 2017 and National Bureau of statistics 2017