

Shipping Operations and Economic Growth in Nigeria Pre And Post Military Era [1988-2016].

Precious Osaruchi Okwu

**Department of Management, Maritime Postgraduate Studies Faculty of Management Sciences
Rivers State University. Port Harcourt**

Abstract

The purpose of this study was to investigate shipping operations and economic growth in Nigeria (1988-2016). The research design adopted in this study is the ex-post facto. The data used were obtained from secondary sources. Secondary sources used include journals, project materials, books, internet materials, etc. The population of the study comprised of all the data collected on export trade, import trade, Gross Domestic Product and Per Capita income between 1988-2016. No sampling technique was adopted since all the data collected were used. Two research questions were presented in the study, while four hypotheses were formulated. The reliability of the instrument showed that the data collected were consistent over time: both data collected from Central Bank of Nigeria and National Bureau of statistics were in agreement. Face and content validity of the instrument was also established by the research supervisor and other expert in the field of measurement and evaluation from the Rivers state university and the University of Port Harcourt. The hypotheses were tested at a significance level of 0.05 using the Multiple linear regression analytical tool in SPSS version 21. Results derived revealed that: (i) There is a strong positive correlation between export and Gross Domestic Product growth; There is a strong positive correlation between export and Per Capital Income growth; There is a very strong positive correlation between import trade and Gross Domestic Product growth; There is a strong positive correlation between import and Per Capital Income growth. Based on the findings of the study, it was recommended that: Emphasis should be given to shipping operations in Nigeria through increasing her export base as well promoting essential importations.

Keywords: Shipping operations, Exports, Imports, Gross Domestic Product, Per Capita Income, Trade.

Introduction

The business definition of shipping is “a very basic and common medium of getting cargo moved from one place to another, or from one person to another”. It is the physical process of transporting commodities and goods merchandise from one location to another. The shipping industry occupies an important position in any country’s economy especially in countries with vast water resource such as seas and oceans. Adams Smith, who is seen as the father of modern economics, viewed shipping as one of the principal steps in economic development of any nation (Ekpo, 2012). The shipping industry includes all business transactions connected to maritime taking place within water ways of the country. Shipping has a significant role to play in a nation’s economy. It has for several years been considered as one of the strong initiators of economic development thus propelling and acting as a catalyst to industrialization of any nation. The role of shipping has one of the least expensive and proficient methods of transportation over long distances from time immemorial and it is one of the major drivers of globalization and economic liberalization. Among these activities such as, offshore like towage, salvage, fishing, resources that are in the water as well as on-shore business activities and those within the port, transportation in the maritime ship construction, maintenance and repair business activities (Ekpo, 2012). shipping occupies a significant position as it constitutes the

greatest source of a nation's economic growth and development. In the look of these thoughts, this study observed that Nigerian transportation industry activities is most dominant in the maritime sub-sector where shipping operations is the main driver of Nigeria's import and export trades. Hence, shipping operations is the main driver of the Nigerian marine transportation operations and account for the vast majority of goods and services imported into the nation and exported to other nations in terms of volume and value. The study further reveals Shipping operations has made significant impact on the Nigerian citizenry relating to per capita income, living standard. The impacts of shipping operations both during the military and post military era [1988-2016]. can be positive or negative. The positive benefits are purely from economic stand point such as job creation, export formation, foreign exchange earnings, GDP growth and improvement of living standard of Nigerians.

Literature Review

There seem to be sufficient possibilities offered by Shipping business. A sustainable transportation system allows affordable access to transportation modes, which are consistent with ecosystem health and support low impact economic development of any nation. (Hadiza Bala Usman, The Guardian 04 February 2020) It is evidently manifest, and rightly so, that the nation's maritime sector has become a notable contributor to efforts at poverty reduction, creation of wealth, promotion of skills acquisition and encouragement of entrepreneurship . Also, it has been proven, beyond doubt, that the maritime sector has the potential of contributing at least 10 percent of Nigeria's GDP in no distance future because Nigeria has the biggest market in Africa and generates about 65-67 percent of cargo throughput in West Africa, and 65 percent of all cargo heading for this region invariably end up in the Nigerian market. The author posits that, that shipping stands among the strongest socio-economic and political factors currently influencing the world. It is important to emphasis Shipping and maritime industry have a profound effect on the economy of Nigeria thereby necessitating evaluation of how export and import trade influence economic growth in the country. Kummi (2013) opined that shipping stands among the strongest socio-economic and political factors currently influencing the world. The idea of shipping is creating a global irrevocable change in the economic, social, cultural and political systems. With the help of globalization, the once big world has metamorphosed into "one small village".

Shipping Operations and Economic Growth – Shipping and the maritime sector is offering a wide range of new business opportunities from clean energy to new modes of transportation, logistics and agriculture – maritime sector cuts across almost all other sectors. The maritime industry holds the key to the sustainable economic development of Nigeria by developing the full the potential within the sector across a range of industries. Whatever we do must be underpinned with strong local content which Nigeria is ideally placed and suited to become the ship building, repairs and maintenance hub for Africa. In the global maritime industry, growing trends have created

some challenges for shipping operations and administration in Nigeria. Subsequently, as in several industries, the maritime industry has not relented in its impact on developments in terms of international broad political and economic context; and it is particularly sensitive to events in the external environment. For example, the need for tonnage transportation in the shipping industry is greatly dependent on the world 's economic outlook, as well as the patterns as observed in large scale production and international markets which Nigeria stands advantageous with her numerous natural resources.

Trade and Economic Growth - Balarabe (2004) believed that perhaps unlike any other industry, the maritime industry on a global level provides a horde of opportunities for investment. Originally, it served to encourage stimulation of import and export trade through the provision of providing soft transport through which goods are moved by sea in large scale. Nigeria has about thirty seven solid minerals and a population estimate of over 173.6 million people as at 2013 (World Bank, United States Census Bureau), it possess one of the larger gas and oil reserves in the world, the economic achievement of the country is rather frail when compared to the emerging Asian countries such as China, brazil, India, south Korea, Indonesia, Malaysia and even Thailand. These nations had been far behind Nigeria or at par with Nigeria in terms of GDP per capital in 1970s, but in recent years they have been able to transform their economies to come out as key competitors on the global economic platform. In 1970, for instance, Nigeria had a GDP per capital of US\$233.35 and was ranked 88th in the world, when China was ranked 114th with a GDP per capital of US\$111.82 (Sanusi, 2010)". As investors begin to increase their exposure to alternative investments, business opportunities are becoming more commonplace in investment portfolios. As global industries and international businesses have begun to show signs of a strong recovery, savvy investors are discovering alternative opportunities outside the influence of traditional investments. One such business that has demonstrated remarkable resilience throughout the global financial crisis, and continued to offer opportunities for investment, is the international shipping industry. Despite widespread economic hardship, rising fuel costs and looming environmental regulations affecting the short-term profitability of business, leaders of the shipping industry have recognized an opportunity to take advantage of shipping business growing number of opportunities for businesses such as in land port, fishing terminals, floating production system offloading vessels, hub ports, shipbuilding docks, insurance, ship chandelling, warehouse, logistics, maritime law, and consultancy, among others. etc. The maritime sector provides vast window of business opportunities in several related activities that offer commensurate returns on investments to the potential investors. The Federal Government is also looking at other sectors outside the oil and gas industry in a bid to ensure its drive to diversify the economy is achieved. And one sector that the government is looking to unlock its potential is the shipping industry which in deed offers huge potential that if effectively harnessed can earn massive revenue for the Federal Government.

Export Trade and Economic Growth - The maritime sector performs an essential role in the businesses pertaining to Nigeria 's ocean resources. The estimated freight cost has been calculated to be between \$5 billion and \$6 billion every year. Based on report from the Ministry of Transport, the maritime sector of Nigeria 's oil and gas industry has been reported to be valued at approximately \$8 billion, which further shows the impact and significant place of the sector in Nigeria's overall economy. The essential role of maritime transport to the Nigerian economy cannot be over emphasized as it is being recognized in the seaborne transportation, as well as in the oceanic extractive resource exploitation, and export processing zones. "(The Daily Sun Business News 10th December 2018)" Nigeria is said to be losing an estimated \$7 billion in revenue annually due to its inability to harness its potential in the shipping industry. Asides, Nigeria is also reputed as the highest importer of Norwegian fish. "There is huge revenue of over \$7 billion yearly in shipping, but we have relied heavily on importation of goods and exportation of crude oil. The oil is even currently exported as Free on Board (FOB), because we don't have a national fleet. This is an opportunity for investor," shipping holds a huge revenue base, high job opportunities, and foreign exchange earner. But it is so underdeveloped. We have huge market for tourism in the sector, but tourism is almost zero harnessed in Nigeria. There are so many things that are so attractive in (maritime).

According to Katz and Istrate (2017), the relevance of exports in boosting economic growth and prosperity is captured in the theoretical justification for international trade. According to the mercantilist economic thought, "foreign trade is seen as an indispensable engine of economic growth and prosperity" (Alfonso, 2018). No doubts, foreign trade as witnessed under the mercantilism is viewed as something profitable only on the condition that there is a positive balance of trade thus indicating that exports play a significant role in international trade. The correlation between economic growth and export has long been a problem requiring more investigation which has ultimately generated serious controversy among many economists and several policy makers. As observed by Hye, (2016), there are essentially two ways used in tackling the issue. The first concerns examining the contribution of exports to the economic growth of an economy using statistical analysis of the "supply side of the economy". This approach springs from the "neo-classical economic growth theory/model". Furthermore, the approach states that the major contributor of economic growth is seen in two major components namely: factor input(s) increase and efficiency growth. Thus, it can be deduced analysis from the approach usually regarding exports as an essential component influences technological progress or is considered to be among factors relating to economic efficiency. In practical terms, the exports contributions is deemed to be included in the remains of growth accounting. "(World Integrated Trade Solution)" Popular indicators – most recent values Nigeria had a total export of 62,399,742.74 in thousands of US\$ and total imports of 43,011,523.21 in thousands of US\$ leading to a positive trade balance of 19,388,219.52 in thousands of US\$ The trade growth is 15.49% compared to a world growth of 3.50%. GDP of Nigeria is 397,269,616,080 in current US\$. Nigeria services export is 4,817,775,565 in BoP, current US\$ and services import is 30,883,664,001 in Bop, current US\$. Nigeria exports of goods and services as percentage of

GDP is 15.49% and imports of goods and services as percentage of GDP is 17.51%. The report indicates positive economic impact which was facilitated and catalysed through shipping operation.

Methods

This study made use the ex-post factor research design to generate its data and explain relationships among the variables under investigation. Data collected involves events that have already taken place in the past. The records that were observed are from 1988 – 2016, a period of twenty-eight years. In the context of this study, the population include all data on export rate, import rate, gross domestic products and per capita income available from National Bureau of Statistics (2015) and Central Bank of Nigeria (2005) between the period of 1988 – 2016 covering both military and post-military era. A sample is a representative percentage or proportion of the entire population. This is usually done by applying various sampling technique. However, there was no need for sampling in this study since the researcher will be making use of all the available secondary data within the specified period (1988 – 2016) covering both military and post-military era. The used secondary data obtained from secondary sources, these include statistical annual reports on import and export earnings tabulated alongside with their corresponding Gross Domestic Products and per capita income (1988 – 2016) covering both military and post-military era. The dependent variable in the study is economic growth measured in terms of GDP (Gross Domestic Product) and PCI (Per Capita Income). The independent variable is shipping operations measured in terms of import trade and export trade. The study used two kinds of data analyses; namely univariate descriptive analysis and bivariate inferential analysis. The descriptive analysis “helps the study to describe the relevant aspects of the phenomena under consideration and provide detailed information about each relevant variable”.

For the inferential analysis, “the study used the least square multiple regression analysis with the aid of Statistical Package for Social Sciences (SPSS) version 21.0”.

Model Specifications - In this study, the independent and dependent variables are used to formulate a multiple regressions equation. Based on the theoretical framework, the model is therefore formulated as thus;

$$Y_{p1} = f(\text{IMPR}, \text{EXPR}) \text{ ----- } 3.1$$

$$Y_{p2} = f(\text{IMPR}, \text{EXPR}) \text{ ----- } 3.2$$

In order to test the competing views on the stated hypotheses, we therefore modify the multiple linear regressions in equations(3.1)and(3.2)in behavioural terms as thus;

$$GDP = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i \text{-----} 3.3$$

$$PCI = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i \text{-----} 3.4$$

Since economic growth will be proxy by GDP and PCI, our models are therefore formulated as;

$$GDP = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i \quad \text{Model I}$$

$$PCI = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i \quad \text{Model II}$$

Where:

GDP= Gross Domestic Product

PCI = Per Capita Income

IMPR = Import Rate

EXPR = Export Rate

B_0 = the intercept of the regression

B_1 to B_2 = the coefficients of the regression.

U_i = the error term

The coefficients of “multiple determination (R^2) were employed in the study to quantify extent of variation in the dependent variable (economic growth) caused by the explanatory (independent) variables (Shipping Operation) considered in the study”. The analysis was conducted at 5% level of significance respectively against the coefficient values in the result tables as will be presented in chapter four.

Variable Measurement

The table below shows the study variables and their measurements.

Table 1 Variable description and measurement

Variable	Description	Measurement
IMPR	Import Trade	Rate of import of goods and services
EXPR	Export Trade	Rate of export of goods and services
PCI	Per capita Income	Average income per individual worker
GDP	Gross Domestic Product	Monetary value of goods and services produced

Source: Researchers' Desk, 2020

The following data as obtained from the Central Bank of Nigeria and statistical bulletin are hereby presented for analysis and interpretation

Table 2

The following data as obtained from the Central Bank of Nigeria and statistical bulletin are hereby presented for analysis and interpretation.

	Year	GDP in Billion Naira	Per Capita Income	Export in Billion USD	Import in Billion USD	
1.	1988	320.33	1635.61	7.239	5.159	Military Era
2	1989	419.20	2460.59	8.423	5.068	
3	1990	499.68	2955.29	14.550	6.909	
4	1991	596.04	3367.27	13.140	10.262	
5	1992	909.80	5542.18	12.844	8.990	
6	1993	1258.07	6960.20	11.073	9.388	
7	1994	1762.81	8974.0	9.830	9.518	
8	1995	2895.20	18595.84	3.840	3.996	
9	1996	3779.13	25,277.37	5.279	3.530	
10	1997	4111.64	25,603.91	4.879	4.335	
11	1998	4588.99	24,198.89	2.808	3.812	
12	1999	5307.36	27,757.66	13.856	12.064	Post Military Era
13	2000	6897.48	38,555.41	20.965	12.018	
14	2001	8134.14	39,131.13	19.645	15.736	
15	2002	11,332.25	55,400.52	18.137	15.797	
16	2003	13,301.56	66,245.95	27.449	21.866	
17	2004	17,321.30	86,219.74	38.103	20.982	
18	2005	22,269.98	106,055.00	56.994	32.627	
19	2006	28,662.47	131,191.70	59.233	35.911	
20	2007	32,995.32	143,022.40	67.494	46.644	
21	2008	39,157.88	164,055.00	88.024	64.212	
22	2009	44,285.56	163,443.70	58.385	49.476	
23	2010	54,612.26	349,791.70	82.699	70.853	
24	2011	62,980.40	391,174.50	102.438	90.794	
25	2012	71,713.94	433,955.80	98.524	80.875	
26	2013	80,092.56	471,456.10	99.419	76.654	
27	2014	89,043.62	510,805.40	83.903	85.748	
28	2015	94,144.96	525,316.40	50.079	73.460	
29	2016	101,489.49	551,511.40	38.326	46.850	

Values of GDP, Per capita Income, Exports and Imports between 1988-2016

Consequently, as a result of low export and import during the military era between 1988-1999 as shown in we see that there was no much growth in the economy measured in terms of PCI compared to the post-military era between 2000-2016. The difference in PCI rate could also be attributed to good economic climate and favourable bilateral trade policies during the democratic governance.

Analysis of Research Question 1

To what extent does export impact on the economic growth of Nigeria?

Coefficient of impact of Export on GDP

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	95.0% Confidence Interval for B		Correlations		
	B	Std. Error	Beta	t		Lower Bound	Upper Bound	Zero-order	Partial	Part
1. (Constant)	-647.671	3385.686		-.191	.850	-7607.049	6311.707			
EXPR	-817.228	216.718	-.843	-3.771	.001	-1262.698	-371.759	.777	-.595	-.259

Decision Rule: The decision rule states that if the P-value is less than 0.05 then we say there is a significant impact of the independent variable on the dependent variable, otherwise the statement is rejected.

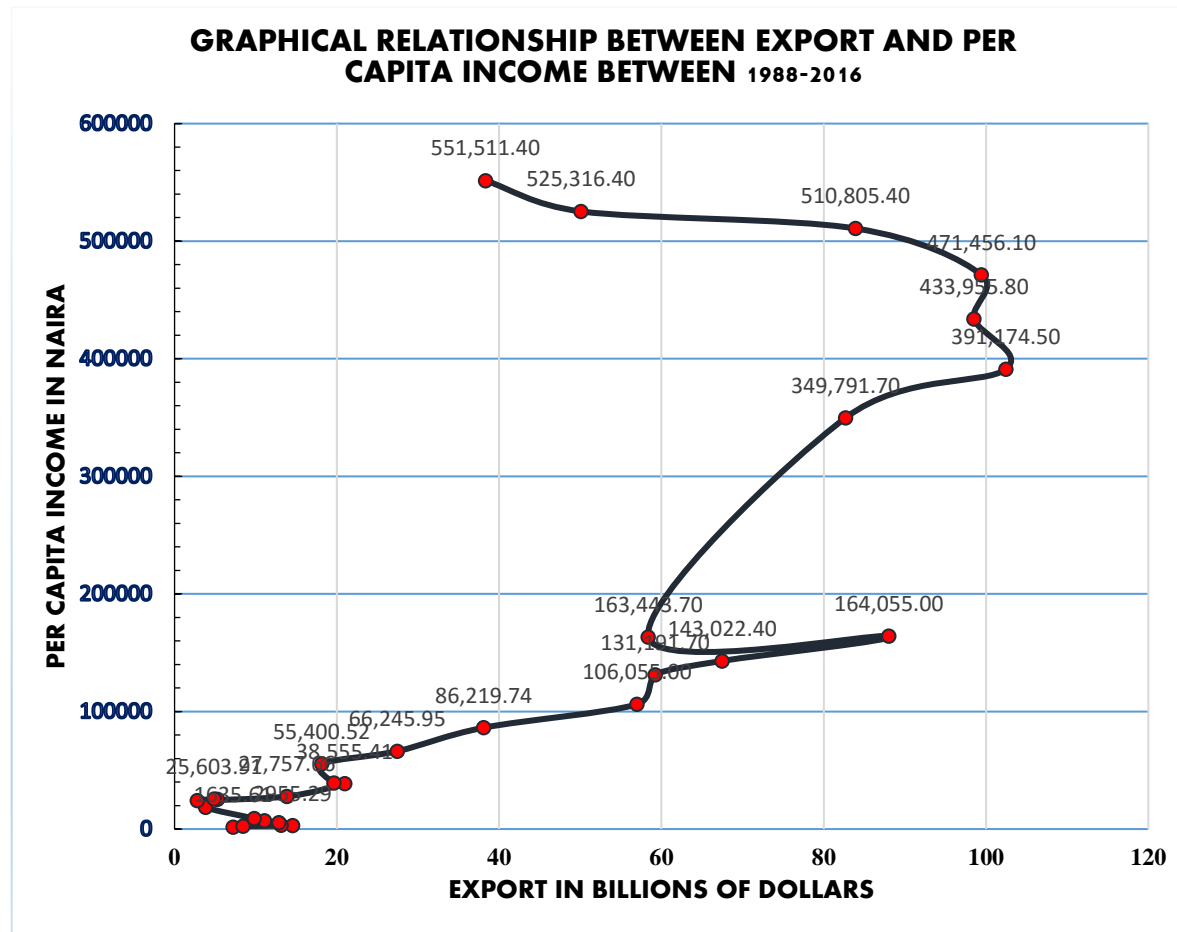
Impact of Export Trade on Economic Growth in terms of GDP

Here, since the P-value (0.001) is less than 0.05 significance level as shown in the table above, it shows that export trade as represented by EXPR has a significant impact on the economic growth of Nigeria measured in terms of GDP. We see from the value of the standardized coefficient that the export trade accounted for 84.3% of variance in the outcome variable measured in terms of GDP.

Coefficient of impact of Export on PCI

Impact of Export Trade on Economic Growth in terms of PCI

Since the P-value (0.0003) here is also less than 0.05 significance level, it shows that export trade as represented by EXPR has a significant impact on the economic growth of Nigeria measured in terms of PCI. Here, since the P-value is less than 0.05 significance level as shown in the table above, it shows that export trade as represented by EXPR has a significant impact on the economic growth of Nigeria measured in terms of PCI. We see from the value of the standardized coefficient that a unit increase in export trade resulted in -0.91 change in the value of PCI.



A line graph showing per capita income rate in the Nigerian economy between 1998-2016 covering both military and post-military era. In above, we also see that export as driven by shipping operation has had a tremendous impact on the economic growth of Nigeria in terms of PCI. As a matter of fact, the relationship between export and PCI is generally positive as we can see from the upward sloppiness and behaviour of the graph. Although, there are instances when a reduction in export still resulted in an increase in economic growth.

Analysis of Research Question 2

To what extent does import impact on the economic growth of Nigeria?

Table 4.4 P-value for impact of import trade on economic growth measured in terms of GDP

Dependent Variable: GDP

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	95.0% Confidence Interval for B		Correlations		
	B	Std. Error	Beta	t		Lower Bound	Upper Bound	Zero-order	Partial	Part
1. (Constant)	-647.671	3385.686		-.191	.850	-7607.049	6311.707			
IMPR	1880.817	246.895	1.702	7.618	.000	1373.316	2388.317	.900	.831	.523

Decision Rule: The decision rule states that if the P-value is less than 0.05 then we say there is a significant impact of the independent variable on the dependent variable, otherwise the statement is rejected.

Impact of Import Trade on the Economic Growth of Nigeria (measured in terms of GDP)

Here, since the P-value (0.000) is less than 0.05 significance level as shown in the table above, it shows that import trade as represented by IMPR has had a significant impact on the economic growth of Nigeria when measured in terms of GDP. We see from the value of the standardized coefficient that for every increase in one-unit value of the import trade, there has been an increase of 1.702 of GDP.

P-value for relationship between import trade and economic growth **measured** in terms of PCI

Model B	Unstandardized Coefficients		Standardized Coefficients		Sig.	95.0% Interval for B		Confidence Correlations		
	Std. Error		Beta	t		Lower Bound	Upper Bound	Zero-order	Partial	Part
2										
(Const)	-10049.640	18831.810		-.534	.598	-48758.980	28659.699			
IMPR	11214.426	1373.276	1.767	8.166	.000	8391.617	14037.235	.898	.848	.543

a. Dependent Variable: PCI

Impact of Import Trade on the Economic Growth of Nigeria (measured in terms of PCI)

Here, since the P-value (0.000) is less than 0.05 significance level as shown in the table above, it shows that import trade as represented by IMPR has had a significant impact on the economic growth of Nigeria when measured in terms of PCI. We see from the value of the standardized coefficient that for every increase in one-unit value of the import trade, there has been an increase of 1.767 of PCI.

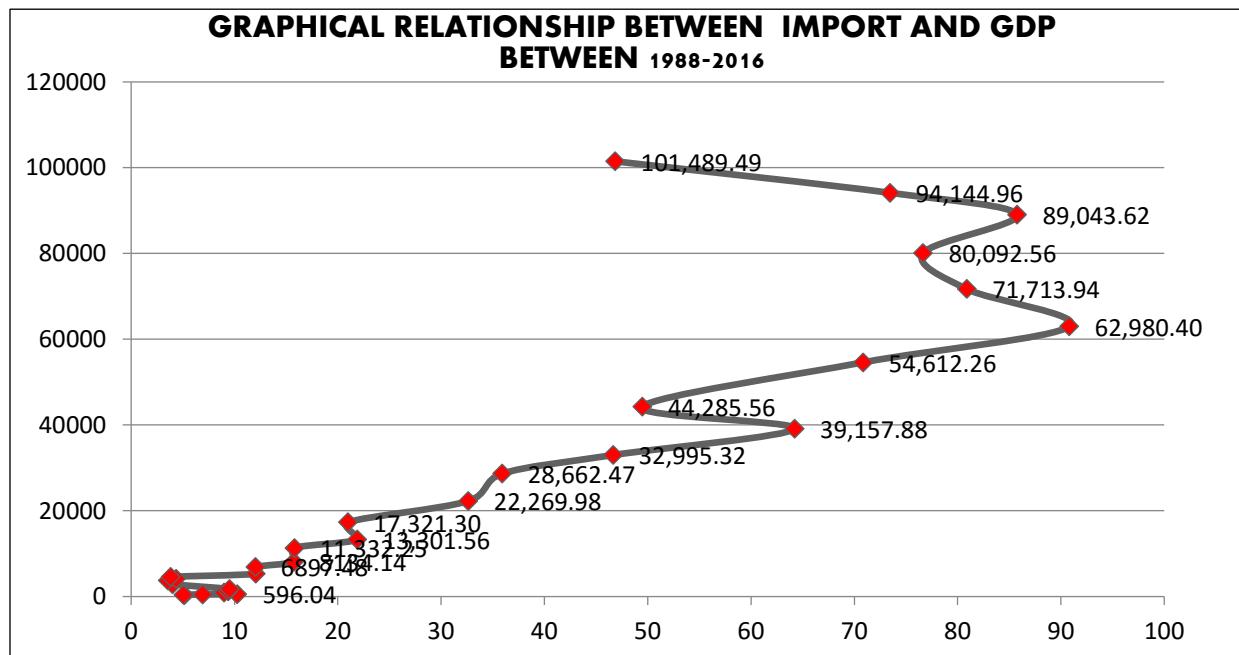


Fig 4.4 A line graph showing the impact of import trade on per capita income rate in the Nigerian economy between 1998-2016 .

Test of Hypotheses

The following hypotheses shall be tested using the multiple regression statistical tool in SPSS version 23.

RE: H₀₁: There is no correlation between export trade and the economic growth of Nigeria.

RE: H₀₂: There is no correlation between import trade and the economic growth of Nigeria.

Test of Hypothesis 1

There is no correlation between export trade and the economic growth of Nigeria?

Table 4.6 Correlation between export trade and GDP in Nigeria between 1988-2016.

		GDP	IMPR
Pearson Correlation	GDP	1.000	.777
	EXPR	.777	1.000
	N	29	29
	EXPR	29	29

Source: Researcher's Desk, 2019.

Relationship between export and GDP

Recall : $GDP = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i$ ----- 3.3

Since economic growth is proxy by GDP as shown in the model 3.3, it is therefore formulated as;

$GDP = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i$ Model I

Here, the dependent variable is GDP, while the independent variable or predictor variable is import trade represented as IMPR. The result of the SPSS multiple regression on the table above shows a Pearson correlation of +0.777 for relationship between GDP and export which shows a strong and positive correlation.

Table 4.7 Correlation between export trade and PCI in Nigeria between 1988-2016.

		PCI	IMPR
Pearson Correlation	PCI	1.000	.768
	EXPR	.768	1.000
N	PCI	29	29
	EXPR	29	29

Source: Researcher's Desk, 2019.

Relationship between export and PCI

Recall: $PCI = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i$ ----- 3.3

Since economic growth is proxy by PCI as shown in fig 4.8, model 3.3 is therefore formulated a

$PCI = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i$ Model I

Here, the dependent variable is PCI. The result of the SPSS multiple regression on the table above shows a Pearson correlation of +0.768 for relationship between export and PCI which shows a strong and positive correlation.

Test of Hypothesis 2

Correlation between Import trade and GDP in Nigeria between 1988-2016.

		GDP	IMPR
Pearson Correlation	GDP	1.000	.900
	IMPR	.900	1.000
N	GDP	29	29
	IMPR	29	29

Source: Researcher's Desk, 2019.

Relationship between import and GDP

Recall : $P = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i$ ----- 3.3

Since economic growth is proxy by GDP as shown in model in 3.3 is therefore formulated as;

$GDP = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i$ Model I

Here, the dependent variable is GDP. The result of the SPSS multiple regression on the table above shows a Pearson correlation of +0.900 indicating a very strong and positive correlation.

Correlation between import trade and PCI in Nigeria between 1988-2016.

		PCI	IMPR
Pearson Correlation	PCI	1.000	.898
	IMPR	.898	1.000
N	PCI	29	29
	IMPR	29	29

Source: Researcher's Desk, 2019.

Relationship between import and PCI

Recall : $PCI = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i$ ----- 3.3

Since economic growth is proxy by PCI, our model in 3.3 is therefore formulated as;

$PCI = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i$Model I

Here, the dependent variable is PCI. The result of the SPSS multiple regression on the table above shows a Pearson correlation of 0.898 showing a very strong and positive relationship between import and economic growth when measured in terms of PCI.

Determination of the multiple regression line equation for relationship between export, import and PCI.

Recall : $PCI = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i$ ----- 3.3

Since economic growth is proxy by PCI, our model in 3.3 is therefore formulated as;

$PCI = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i$Model I

From the result shown in the table above, the result shows IMPR has a greater relevance than the EXPR with coefficient values of 1.702 and -0.843 respectively. The implication of this is that IMPR has had more impact on economic growth than EXPR.

To obtain the multiple regression line, recall, $Y = b_0 + b_1x_1 + b_2x_2 + \varepsilon$ which is represented by:

$$GDP = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i$$

Where B_0 is the intercept and B_1 and B_2 are slopes.

Thus, from the result in the table above, in the column for unstandardized coefficients,

$B_0 = -647.671$; $B_1 = 1880.817$; $B_2 = 817.228$. Substituting these in equation 3.3, we have:

$$GDP = -647.671 + 1880.817(IMPR) + 817.228(EXPR)$$

MODEL SUMMARY I

RE: $GDP = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i$ Model I

Correlation between import trade and GDP in Nigeria between 1988-2016.

Change Statistics										
Model R	R Square	Adjusted Square	R Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. Change	FDurbin-Watson	
1	.937 ^a	.877	.868	11885.12656	.877	93.101	2	26	.000	1.253

a. Predictors: (Constant), IMPR, EXPR

b. Dependent Variable: GDP

The value of the Adjusted R Square value 0.868 shows that the amount of variance that the independent variables export and import account for in the total dependent variable GDP is 86.6%. Thus, it is concluded that the predictor variable export and import as driven by shipping operation have a significant impact on economic growth as measured in terms of GDP.

Correlation between import trade and GDP in Nigeria between 1988-2016.

Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	95.0% Confidence Interval for B		Correlations		
	B	Std. Error	Beta	t		Lower Bound	Upper Bound	Zero-order	Partial	Part
1 (Constant)	-647.671	3385.686		-.191	.850	-7607.049	6311.707			
EXPR	-817.228	216.718	-.843	-3.771	.001	-1262.698	-371.759	.777	-.595	-.259
IMPR	1880.817	246.895	1.702	7.618	.000	1373.316	2388.317	.900	.831	.523

a. Dependent Variable: GDP

a. Dependent Variable: GDP

Based on the model : Based $GDP = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i$

Since $B_0 = -647.671$; $B_1 = -817.228$; $B_2 = 1880.817$. Therefore, the equation for the multiple regression line here will now be determined as :

$$GDP = -647.671 + (-) 817.228(IMPR) + 1880.817(EXPR) + U_i$$

MODEL SUMMARY II

RE: $PCI = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i$ Model II

. Correlation between import trade and PCI in Nigeria between 1988-2016.

Change Statistics										
Model	R	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. Change	FDurbin-Watson	
2	.941 ^b	.885	.876	66107.256	2.079	17.807	1	26	.000	1.371

b. Predictors: (Constant), IMPR, EXPR

c. Dependent Variable: PCI

Here, since the multiple correlation coefficient, R 0.941 is greater than 0.05 significance level, it shows that the relationship between the predictor value and the observed value is highly positive and strong. The value of the Adjusted R Square value 0.876 further shows that the amount of variance that the independent variables export and import account for in the total dependent variable PCI is 87.6%. Thus, it is concluded that the predictor variable export and import as shipping by operation have a significant impact on economic growth when measured in terms of PCI.

Correlation between import trade and PCI in Nigeria between 1988-2016.

Model	Unstandardized Coefficients		Standardized Coefficients		Sig.	95.0% Confidence Interval for B		Correlations		
	B	Std. Error	Beta	t		Lower Bound	Upper Bound	Zero-order	Partial	Part
(Constant)	-30456.970	23182.779		-1.314	.200	-78024.104	17110.163			
1 IMPR	5699.799	537.453	.898	10.605	.000	4597.038	6802.561	.898	.898	.898
2 (Constant)	-10049.640	18831.810		-.534	.598	-48758.980	28659.699			
IMPR	11214.426	1373.276	1.767	8.166	.000	8391.617	14037.235	.898	.848	.543
EXPR	-5086.633	1205.423	-.913	-4.220	.000	-7564.415	-2608.851	.768	-.638	-.281

a. Dependent Variable: PCI

Based on the model : $PCI = B_0 + B_1 (IMPR) + B_2 (EXPR) + U_i$

Since $B_0 = -10049.640$; $B_1 = 11214.426$; $B_2 = -5086.633$. Therefore, the equation for the multiple regression line here will now be determined as :

$GDP = -10049.640 + 11214.426(IMPR) - 5086.633 (EXPR) + U_i$

Summary of Results

There is a strong positive correlation between export trade and GDP growth in Nigeria.

There is a strong positive correlation between export trade and PCI growth in Nigeria.

There is a very strong positive correlation between import trade and GDP growth in Nigeria.

There is a very strong positive correlation between import trade and PCI growth in Nigeria.

Discussion of Findings

This chapter has adequately treated and analyzed two research questions and four hypotheses and as a result, appropriate conclusions and findings have been deduced. After reviewing the topic: “Shipping operations and economic growth of Nigeria”, The researcher specifically examined the impact of export and import trades on GDP and PCI between 1988-2016 covering from military to post military era. From the result of the analyses as revealed, we see that there was little or no significant growth in the economy as measured in terms of GDP and PCI within the period of the military regime. This is most probably because the import and export rate were both very low as shown in the respective graphs. This is in line with the findings of Oziegbe and Anyiwe, (2006) who revealed that Nigeria had shown more negative significant growth during the military regime compared to the democratic regime. Here, one may say that democracy performed better than the military.

In response to research question 1, the result showed that shipping operations as characterized by export trade has had a significant impact on the Nigeria economy since 1988-2016. This finding is in conjunction with the findings of Giles & Williams (2000) who explained that the maritime sector has contributed to national growth in terms of exploitation, distribution and export of Nigeria ‘s ocean resources. He therefore concluded that exports have a positive impact on economic growth. He further explained that the contribution to growth made by domestic consumption is limited to the size of regional (or national) markets, sales to foreign markets represents an additional consumption demand which increases the amount of real output produced in the economy. In collaboration with this findings, Bernard& Jensen (2020) and Bernard &Wagner (1997) explained further that exporting is usually associated with more productive firms and thus export-led growth at aggregate level may be the result of both the accumulation of within-firm productivity gains from export participation, or the reallocation of resources from comparatively less productive non-exporters to more productive exporters . To further buttress this point, Uche (2009) pointed out that the relevance of exports in boosting economic growth and prosperity is captured in the theoretical justification for international trade.

In further collaboration to the findings in research question 1, the result in the hypotheses from the SPSS multiple regression on tables showed a Pearson correlation of +0.777and 0.768 respectively for relationship between export and GDP and relationship between export and PCI which shows a strong and positive correlation between the two variables. According to Lin and Li (2007), export has the potential of influencing economic efficiency and growth.

In response to research question 2, the result also showed that shipping operations as characterized by import trade has had a significant impact on the Nigeria economy since 1988-2016. This finding is in conjunction with the findings of Pereira, (1996) as cited in Agbo, Ebere and Oluchukwu, (2018) who demonstrated that investigation on the import-growth relationship indicated a positive impact of import on growth especially through the impact of technology imports in the production process of developing countries. Also, Grossman and Helpman (1991) as cited in Agbo, Ebere and Oluchukwu, (2018) also demonstrated the importance of imports of foreign technology in the growth process of a country. They explained that the importation of foreign equipment creates a more efficient production system, increases productive capacity, global output, technological capacity development and economic growth.

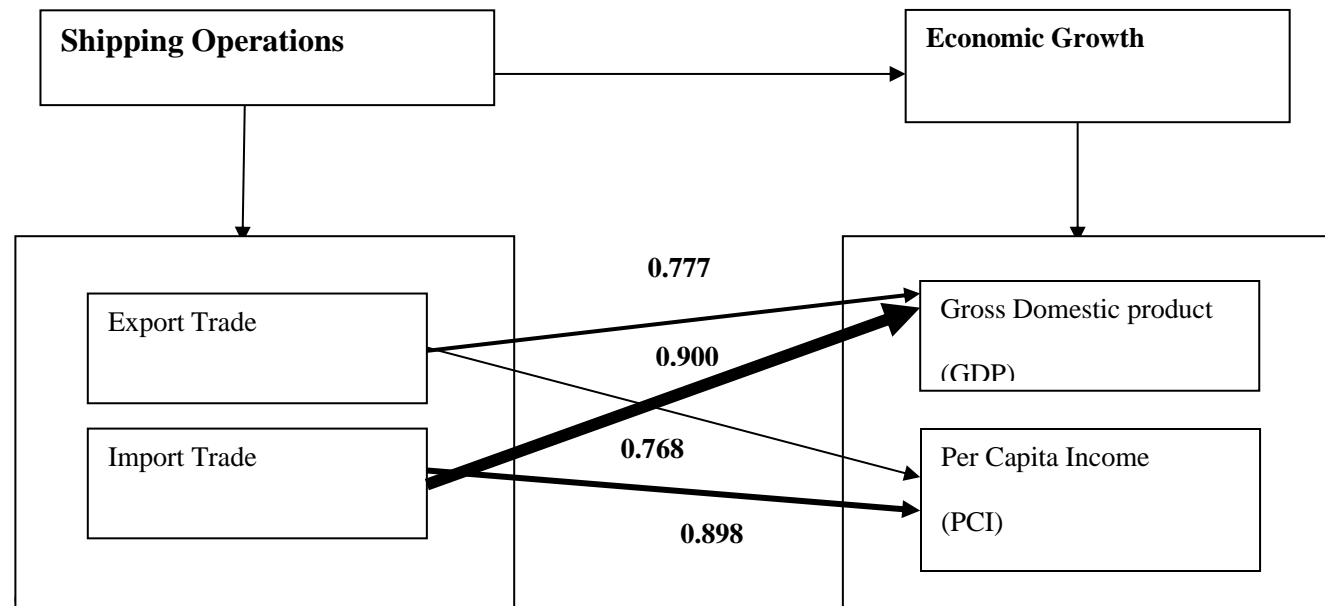
In further collaboration to the findings in research question 2, the result in hypothesis 3 and 4 from the SPSS multiple regression and showed a Pearson correlation of +0.9 for relationship between GDP and import and 0.898 for correlation between import and PCI showing a very strong and positive correlation between the variables.

Summarily, it appears the shipping operation has made significant impact on the Nigerian citizenry relating to per capita income and living standard. Shipping as a form of capital or resource drives the nation's economy through cargo reservation, transportation, including haulage of wet and dry cargo within or beyond the nation's waterways (Ekpo, 2012). Hence, these impacts can be positive or negative. The positive benefits are purely from economic stand point such as job creation, export formation, foreign exchange earnings, GDP growth and improvement of living standard. The negative impacts are oil pollution, piracy, disposal of solid waste etc. (Ekpo, 2012). Again, the industry is also faced with poor quality of funding in most developing nations, policy inconsistencies and lack of support from government of changing economics (Ndikomet *al.*, 2017). However, it has been perceived that the Nigerian economy has grossly performed below expectation relative to its immense natural endowment and her compeer nations. Despite her numerous solid mineral resources and a population of over 170 million people, one of the largest gas and crude oil reserves in the globe, the economic performance of the country was affirmed rather weak when compared and contrasted to the emerging Asian nations such as India.

Also, for many decades now, Nigeria has stupendously been expending on the importation of technologically oriented goods mainly from Western Europe, even though the nation was not aggressively exporting agricultural and industrial output. A scrutiny of the Nigeria's profile regarding imports during the period of 1988-2016 (see appendix) for instance, revealed that Nigeria's import trade has the capability of balancing export revenue. According to Nigeria's National Bureau of Statistics (2016), imports to Nigeria decreased by 24.7 percent year-on-year in December 2015. In the last quarter of the year, purchases declined 22.4 percent. The difference between what is produced and what is consumed is supplied via importation of about 2.1 million metric tons, at such huge annual import expenses of about N356 billion. This is devastating for an economy like Nigeria. Now, compare that with what can be produced locally at a

cheaper cost, with a number of associated benefits (Oyeleye, 2014). Nigeria is as well incapable to attaining economic growth via international trade owing to factors such as lack of good governance, poor policy and hostile external environment, corruption, insecurity, poverty, infrastructural development and poor human capital among others. In Nigeria for instance, few people possess the requisite skills and technological knowhow in the productive sector and owing to the unsuitable match between productive training and education; the country has for long been witnessing an alarming rate of unemployment (Ogbimi, n. d.). It is disheartening to observe that after 60 years of independence, Nigeria is not even being near to gratifying the hungriness of needful economic development despite her vision 20- 2020 (Abdullahi et al., 2012; Ozughalu, & Ajayi, 2014).

Heuristic model of study



5 Conclusion

The study has shown with adequate statistical evidence that shipping operation can impact significantly on the economy of a nation. It has also become obvious from the findings of this study that the importance of the shipping operation services in the country cannot be over emphasized. Truly, the Nigerian transportation industry activities is most dominant in the maritime sub-sector where shipping operations is the main driver of Nigeria's import and export trades (Buhari, 2013). Hence, shipping operations is the main driver of the Nigerian marine transportation operations and account for the vast majority of goods and services imported into the nation and exported to other nations in terms of volume and value. Most heavy duty equipment's and cars are traded through shipping operations in the maritime sub-sector. However, the fundamental function in shipping operations and management are commercial, operations, technical, crewing, bunkers, finance and administration (Institute of Chartered Shipbrokers, 2015). Thus, shipping operations encompass the fundamentals of commercial operation, technical services, finance and administrative activities etc. It is pertinent to note that, the activity of shipping operations encompasses integrative knowledge and technical expertise that cuts across several disciplines.

Recommendations

The following are hereby recommended for the effective implications of shipping operations for economic growth and development in the country:

1. The statistical result results suggest that Nigerian government should give more emphasis to shipping operations through increasing her export base in order to enable the country benefit all the gains of trade including economic growth.
2. The country's trade should not only be exports but also the promotion of essential importation. Promotion of exports within the context of sub-regional and regional economic integration should be vigorously pursued to expand Nigerian international market and the importation policy of the government should be strictly adhered to in order to control dumping and to encourage the local investors.

Suggestion for Further Studies

Further studies are hereby recommended in the following:

1. International trade, its challenges and economic growth in Nigeria.

2. Sustainable developments through improvements of the shipping operations in Nigeria.

Contribution to Knowledge

The study has contributed to the stock of knowledge existing in the literature. First, shipping operations and economic growth covering the period 1988-2016 which depicted the trade volumes of the military and post military era was neglected by previous studies. The study was able to fill this gap. Again, Shipping operations and economic growth relationship was positive and highly significant under democratic regime. This is demonstrated by the heuristic model below.

References

- Afonso, O. (2018). *Impact of international trade on economic growth*. London: Faber and Faber Press.
- Albahi, M.S.E., & Ak, M. S. (2016). Export-import and foreign direct investment (FDI): indonesian economic study. *Journal of Economics and Finance*, 7(4), 37-44.
- Analysi. *Journal of Chinese Economic and Foreign Trade Studies*, 5(1), 42-45.
- Aw, B.Y., Roberst, M.J., & Xu, D.Y.(2015). R&D Investment, exporting, and productivity dynamics. *American Economic Review*, 101(4), 1312-44.
- Ayesha, J.(2016). Adam Smith's Theory of Economic Development. Retrieved from <https://www.economicdiscussion.net/> on 14th July, 2019.
- Baumol, W. J., Bailey, E. E., & Willig, R. D.(1977). Weak Invisible Hand Theorems on the Sustainability of Multiproduct Natural Monopoly. *American Economic Review*, 67(2), 350-65.
- Bernard , A.B., & Jensen, J.B. (2020). Exporters, jobs and wages in US Manufacturing . Brookings papers on economic activity 1976-1987. *Journal of Microeconomics*, 2(1), 120-132.
- Bokosi, F. K. (2015). Export trade and economic growth in Malawi: A disaggregated approach. *International Journal of Economics and Financial Research*, 1(7), 97-105.

- Buhari, C. M. (2013).An analysis of Nigerian seaborne trade (dry bulk) and the demand for transport.International affairs and global strategy, 15(6), 13-46.
- Coltin, C. (2016). Contestability ‘theory’, its links with Australia’s competition policy, and recent international trade and investment agreements. *Australian Journal of International Affairs*, 2(3), 315-334.
- Debasish, O. (n.d). Adam Smith Theory of Development in Economics (Main Features). Retrieved from <http://www.economicsdiscussion.net/> on June 12th, 2019.
- Dimitrios, V. L., Fyruik, T., Kapetanios, G. N. &Ventikos, N. P. (2015).Optimizing shipping company operations using business process modeling. *Maritime policy and management*, 32(4), 403-420.
- Duoruet, C. & Nottenboom, T. (2012). Developing linear service networks in container shipping. *Maritime logistics, a complete guide*.London: Kogan page.
- Ehinomen, C., & Damilola, D. (2013). Impact of Trade Openness on the Output Growth in the Nigerian Economy. *British Journal of Economics, Management & Trade*, 4(5), 754-767.
- Ekpo, I. E. (2012). Impact of shipping on Nigerian economy: Implications for sustainable development. *Journal of Educational and Social Research*, 2(7), 107-116.
- Eltis, W. A. (2015). Francois Quesnay: A Reinterpretation 2: The Theory of Economic Growth. *Oxford Economic Papers*, New Series, 27(3), 327-351.
- European Commission (2016). Detailed analysis of ports and shipping operations: Annex to motorways of the sea detailed implantation plan. Dip 2nd progress report.
- Federal Ministry of Transport (1995).Increasing Indigenous Participation in Cargo AffreightmentAbuja.Federal Ministry of Transport (FMOT).
- Feldman, M. & Lowe, N. (2015). Triangulating regional economies: Realizing the promise of digital data. *Research policy*, 44(9), 1785-1793.

- Giles, J. A. & Cara L. W. (2000). Export-led growth: a survey of the empirical literature and some non-causality results. *Journal of International Trade and Economic Development* 9(3), 261-337.
- Grossman, G.M., & Helpman, E. (2015). Globalization and Growth. *American Economic Review: Papers & Proceedings* 105(5), 100–104.
- Haller, A. (2012). Concepts of economic growth and development: Challenges of crises and of knowledge. *Economy transdisciplinary cognition*, 15(1), 66-71.
- Haradhan, M. (2018). Quality research methodology in Social Sciences and Related Subjects. *Journal of Economic Development, Environment and People*, 7 (1), 23-48.
- Haralambides, H. E. (2017). Structure and operations in the linear shipping industry. *Handbook of transport modeling*, Buton: Elsevier science editors.
- Huebner, S. S. (2014). Advantages and disadvantages of shipping conferences and agreements in the American foreign trade. *The annals of the American academy of political and social science*, 20(12), 243-259.
- Hye, Q.M.A. (2016). Exports, imports and economic growth in China: an ARDL analysis
- Inah, E. O. & Elijah, A. S. (2016). The challenges of Calabarsea port operations, Calabar, south-south Nigeria. *International Journal of Advanced Research and Publications*, 2(8), 40-48.
- Institute of Chartered Shipbrokers (2015). Ship operations and management seminar. Retrieved online at <http://www.squarespace.com> 12/05/2015.
- Irami (2012). The economic role of the shipping industry. Retrieved from <https://ramiwaheed.wordpress.com> on 11th June, 2019.
- Iyoha, M. A., Oyefusi, S. A. & Oriakhi, D. E. (2003). An introduction to modern micro economics. Benin: Mindex Publishing.
- Jhingan, M. L. (2013). Advanced economic theory. New Delhi: Urinda Publications (P) Ltd.

- Katz, B., & Istrate, E. (2017). Boosting Exports, Delivering Jobs and Economic Growth. *Project on State and Metropolitan Innovation*. Retrieved from <https://www.brookings.edu/> on 10th January, 2020.
- Kramer, L. (2020). What Is GDP and Why Is It So Important to Economists and Investors?
- Kumar, S. & J. Hoffmann (2002). Globalization: The Maritime Nexus, in C. Grammenos (ed) *The Handbook of Maritime Economics and Business*, London: Lloyd's, 35-62.
- Kummi, S. (2012). The importance of shipping to the economic development of Nigeria 1976-2006. Retrieved from <https://lazokoroji.wordpress.com> on 12th July, 2019.
- Loubaki, D. (2016). Economic development, a theoretical approach. *Journal of Economics and Finance*, 7(6), 30-42.
- Muller, A. L. (1978). Quesnay's Theory of Growth: A Comment. *Oxford Economic Papers*, New Series, 30(1), 150-156.
- Ndikom, O. B. C., Buhari, S. O., Okeke, O. K. & Matthew, W. S. (2017). Critical assessment of maritime industry in Nigeria: Challenges and prospect of policy issues. *African Journal for the Psychological Studies of Social Issues*, 20(3), 10-25.
- Nigerian Maritime Administration and Safety Agency (2016). Incentive schemes for national carriers and shippers, Seminar organized by the Nigerian Maritime Authority, final report, Lagos.
- Omoke, V., Aturu, A. C., Nwaogbe, O.R., Ajiboye, A.O., & Diugwu I. (2016). Analysis of the impact of port operations on Nigerian economy: a focus on Apapa Seaport. Federal University of Technology, Minna: The University Press.
- Ozughalu, U.M. & P.I. Ajayi. (2014). Absolute Poverty and Globalization: A Correlation of Inequity and Inequality. In *Globalization and Africa's Economic Development*, selected Papers for the 2003 Annual Conference of the Nigerian Economic Society(NES).
- Pearson R. (1987). Some doubts on the contestability of liner shipping markets. *Journal of Maritime Policy and Management*, 14 (1), 71-78
- Pirrong, S.G. (1992). An application of core theory to the analysis of ocean shipping markets. *The Journal of Law and Economics* 35 (2), 89–131.

Rashid, S. (2017). The wealth of nations and historical facts. *Journal of the History of Economic Thought*, 14(2), 225-243.

Retrieved from <https://www.investopedia.com/> on 1st June, 2020.

Rex , C., Kristensen, N.M., Stenbjerg, J.N., Jensen, S.M.& Wergeland, C.(2018). Competition, Contestability, and the Liner Shipping Industry (Comment and Rejoinder). *Journal of Transport Economics and Policy* 23, (2)199-208.

Roberts, M., & Tybouts, J. (2015). Decsion to export in Columbia : An empirical model of entry with sunk costs. *American Economic Review*, 87(4), 545- 564.

Sjostrom, W. (1989).Collusion in ocean shipping, a test of monopoly and empty core models.*Journal of Political Economy*, 97 (2), 1160–1179.

Sys, C., Blaeuwens, G., Omeij, E., Voorde, V. D. &Witlox, F. (2008).In search of the link between ship size and operations. *Transportation planning and technology*, 31(4), 435-463.

Telser, L.G. (1978). *Economic Theory and the Core*. University of Chicago Press, Chicago.

United Nations (2016).Maritime transport is ‘backbone of global trade and the global economy’, says secretary-general in message for international day. Retrieved from <https://www.un.org> on 11th June, 2019.

United Nations Committee on Trade and Development (2016). *Marketing promotion tools for shipping*, Geneva UNCTAD office.

United Nations Trend on Trade and Development (2018).A review of maritime transport. Retrieved from <https://unctad.org/> on 14th July, 2019.

Visvikis, I. D. & Panayides, P. (2017). *Shipping operations management*, first edition.Springer Publication.

Visvikis, I.D., & Panayides, P. (2017). Ship operations. *Journal of Studies in Maritime Affairs*, 4(10), 11-12.

Wilczec, F. (2016). *Core Theory*. Retrieved from <http://frankwilczek.com/2014/coreTheory.pdf> on 14th July, 2019.