ANALYSIS OF THE EFFECTS OF GLOBALISATION ON MARITIME LOGISTICS IN NIGERIA

BY

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CERTIFICATION

This is to certify that this Project "Analysis of The Effects Of Globalisation on Maritime Logistics in Nigeria" was carried out by **NDUKWU IBEAWUCHI PETER** with Registration Number (**20194196888**) in partial fulfillment of the requirements for the award of Master Of Science (MSc.) Degree in Maritime Management Technology, School of Logistics and Innovation Technology,Federal University of Technology Owerri,Imo State Nigeria.

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DEDICATION

These Research Study would have not be accomplished without the grace of God Almighty to whom all gratitude, glory and praises and honors is deserving. I am also grateful for all the support given to me by my wife Mrs Ifechi Maryjane Ndukwu, My Parents Mr & Mrs Tobias Ndukwu, My Siblings, and to my boss and Mentor Dr. Paul Chuks Onuoha, the Provost/CEO of Federal College of Fisheries and Marine Technology, Lagos who always challenges me to continue flying higher in Academics.

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I appreciate the fact that life itself is full of experience as we leave our daily lives but the experience accrued to the course of carrying out this scholarly Research work is enormous. The study gathered unforgettable experiences that leaves me with the enthusiasm and insight for better understanding of the roles globalization plays in Nigeria economy through maritime Logistics. Maritime Logistics as the engine that drives globalization breaking barriers of intra Nation's trade/cross Atlantic Transactions and making interactions with other Nations seamless.

I want to specially recognize the following Lecturers in the Department of Maritime Management Technology, the HOD, Dr. BOC Ndikom who the ball of Supervision of this Thesis was passed to his court, the immediate passed HOD, Dr. Donald Onwuegbucholam, who never cease to be reach out to anytime you need his assistance and continuous guidance, Prof. Emeahara, Prof. Chinedu Onyemaechi, Dr. I.C. Nze, Dr. Theo Nwokedi, Dr. Okechukwu Okeke, and Prof. Kenneth Nnadi, I appreciate you all for taking us through the rigorous journey to a logical Conclusion.

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ABSTRACT

The study investigated the effects of economic globalization maritime trade and port logistics in Nigeria. The central objective was to determine the significance of the influence of economic globalization on values of seaborne export and import trade, GDP maritime transport, port revenue, ship traffic calls in Nigeria ports, trend ship turnaround time in Nigeria ports, and cargo dwell time trend in Nigeria ports. The study used ex-post facto research designed and secondary data sourced from the Nigeria Ports Authority, Central bank of Nigeria and the International Monetary Fund covering a period of 15 years from 2005 to 2019. The log-linear multiple regression analysis method was used to analyze the data obtained. It was found that while there is significant effect of economic globalization on the value of shipping export trade, value of shipping import trade, GDP maritime transport, port revenue generated in Nigeria between 2005 and 2019; there is no significant effects of economic globalization of maritime logistics indicator variables such as the ship calls in Nigeria ports, trend of ship turnaround time in Nigeria ports, and the trend of cargo dwell time in Nigeria ports. The following empirical models among others were developed showing the effects of economic globalization on maritime logistics in Nigeria: $InEXP_{trade} = 7.484 - 0.428InKOFTRGlDf + 2.046InKOFTRGlDj + 1.95InKOFFGlDj + 0.552InKOFFGlDf + e$; $InEXP_{trade} = 23.396 – 2.388InKOFTRGlDf + 8.279InKOFTRGlDj + 3.838InKOFFGlDj – 9.423InKOFFGlDf + e$; $InIMP_{trade} = 23.396 – 2.388InKOFTRGlDf + 8.279InKOFTRGlDj + 3.838InKOFFGlDj – 9.423InKOFFGlDf + e$; $InSHIP_{traffic} = 5.966 + 0.841InKOFTRGlDf - 0.852InKOFTRGlDj + 0.185InKOFFGlDj + 0.486InKOFFGlDf + e$; $InGDP_{maritime} = 5.016 -1.21InKOFTRGlDf + 0.503InKOFTRGlDj + 1.623InKOFFGlDj + 0.672InKOFFGlDf + e$. The policy implications were discussed and recommendations proffered in line with the study findings.

Keywords: Economic, globalizations, effects, maritime, logistics, Nigeria

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Logistics is viewed as the total process of planning and managing the acquisition, transportation, storage, handling and administration of usage of resources by organizations, firms or individuals. It involves the planning and administration of the processes involved in needs identification, sourcing and order placement, order processing, order fulfillment cum purchasing, packaging, transportation and distribution, materials handling, storage, materials management associated with both inbound and outbound logistics systems, management of the supply chain and transportation nodes, etc.; in securing the delivery of goods and services from consignors and consignees; and the optimal management of the use of the goods and services in enhancing the performance goals of organizations (Aylin & Yucel ,2016). Its origin was linked to the planning strategies and operations of the United States military operations during the Second World War Logistics from Military perspectives is a term used in reference to how military personnel obtained, stored, and moved equipment and supplies. Business logistics specifically addresses the planning and administration strategies exercised by companies in the manufacturing and allied sectors, to refer to how resources are handled and moved along the supply chain. Due to the fact supplies are very vital in the life sustainable existence of all organizations and business entities from the manufacturing, trading, to service organizations, logistics is that which coordinates the supply and use of these supplies is therefore central to the effective and efficient performance of firms.

Studies by Aylin & Yucel ,(2016**),** Nwokedi, Ndikom, Okoroji and Nwaorgu (2021) and Chinn and H. Ito (2006), identified the key activities present in Logistics management are:

- Accumulation and assignment of supervision and plans.
- Seller and customer order management

- Accurate and safe packing, handling, and transport management.
- Optimization the beneficial impacts of transport nodes and modes on trade
- Both inbound and outbound logistics activities.
- Management of supply chain and blending other relative actions.
- Individual track of goods across the complete supply chain.
- Selection and management of various vendor links.
- Streamlining and scrutiny of the transportation and products carried in the process.

In the performance of the above functions, studies by Aylin & Yucel ,(2016), Nwokedi et al (2021) and Chinn and Ito (2006) agree that the extended simplified main goal of logistics management is to get the best and effective ways to transfer the resources and products from consignor to the consignee safely, costly effectively and timely. By implication, efficient logistics management gingers improved returns on investment (ROI) to the concerned organization. It enhances customer service, enhances brand value, creating more opportunities for your business. As there is enhanced transparency in the supply chain there is a great chance to minimize operational costs, maintaining the right inventories, and shaping the best flow of goods. Thus central goals and objectives for implementation of logistics functions and activities by individual organizations is to:

(i) Optimize cost (transportation cost, operational cost, stock-out cost, etc)

(ii) Optimize time (delivery time, operational time, production time, machine hours, etc.)

(iii) Enhance efficiency in both inbound and outbound logistics systems

(iv) Fulfilling customer requirements and orders timely and efficiently

(v) Eliminate negative disruption to the supply chain system

(vi) Eliminate safety and security threats/risks (pilferage risks, damage to goods, etc)

(vii) Ensure quality is maintained and achieved

(viii) Optimized inventory levels

(ix) Optimize or reduce tax burdens

The maritime transport sub-sector has evolved as a major mode of transporting shipping import and export (foreign) trade across countries with bilateral trade agreements. Strategic planning and administration of the very complex processes and procedures involved in the carriage of foreign trade by sea cannot be underestimated in ensuring the achievement of effective and efficient maritime transport system that supports the realization of the central goals and objectives of logistics aforementioned. Thus the concept of 'maritime logistics' which involved the marriage of logistics and maritime transportation and the superimposition of the logistics management activities and functions on traditional maritime transport practices, to actualize the efficiency, cost optimization, time optimization, customer satisfaction, qualitative products and services, etc., in the operations of the maritime transport sub-sector and the allied organizations such as the seaports, shipping companies, shipping agencies, shippers and shippers organization.

Maritime logistics, in the context of this study is similar to port logistics, it is an integrated concept that addresses all aspects of logistics and supply chain challenges associated with maritime transportation and the delivery of goods via the seaports. Its focus is to improve and/or maximize the efficiency, cost-effectiveness, time, safety and security service, quality, utility/customer satisfaction, etc., associated with the use of maritime transport and seaports in the delivery of consignments by shippers and freight forwarders. According to Egger and Larch (2008), logistics as a process refers to planning, execution and managing the movement of products and information, from one point to another, aimed at achieving cost effectiveness, time optimization, performance maximization, utility maximization and customer satisfaction (Egger and Larch, 2008), In the maritime industry, the complex nature of the maritime sub-

sector requires the incorporation of the logistics functions and activity areas when addressing the numerous challenges and bottlenecks to efficiency in service delivery and port-user satisfaction in the sub-sector. For example, all maritime-related fields, such as ship ownership, chartering, shipping agencies, brokering, freight-forwarding, stevedoring, supply management, port operations, etc. are separate operating units. However, they are integrated in the functions of port/maritime logistics(Battini, Peretti, Persona, & Sgarbossa, 2014). Within the port operations as such, it shall be noted that port logistics sector as an aspect of maritime logistics is associated with the application of the logistics functions in port operations, management and administration to achieve the core goals of logistics (cost effectiveness, time optimization, utility maximization and customer satisfaction, performance improvement, etc.) as mentioned above. Thus, many factors related to port operations and activities included in port logistics as a unit of maritime logistics influence the efficiency, cost, effectiveness, time, safety and security, service quality, utility/customer satisfaction, etc., based on the use of ports by shippers and freight forwarders (Battini, Peretti, Persona, & Sgarbossa, 2014).

The Seaports are critical components of the maritime transport systems and important nodes in the transport, logistics and supply networks associated with international trade. They are as a result critical components of the entire maritime logistics systems, need efficient implementation of logistical functions to overcome identified major challenges and bottlenecks to the flow of shipping import and export trade. Thus, the level of planning and administration of port operations as major activity area in maritime logistics, significantly influences port costs, freight rates (ocean transport cost) delivery time, Gross Domestic Product of maritime transport (output), efficiency, safety and security risks associated with the use of maritime transport mode, in delivering international seaborne trade. Therefore, the output and measures of the implementation of logistics management functions in the

maritime transport sub-sector (maritime logistics) may be viewed from the perspectives of prevailing levels of port costs (dues and charges), freight rates (ocean transport cost) delivery time (ship turnaround time and cargo dwell time), Gross Domestic Product of maritime transport (output), pilferage risks (security risk), damages to cargo and loss of shipment (safety) associated with the use of a particular port system. This is expected that while the implementation of logistics functions in maritime transport should improve the output (GDP) of the sector, it should reduce or optimize cost and time spent in ports as well as reduce cargo damage and pilferage risks associated with safety security challenges in the ports.

In Nigeria, trend of ship turnaround time, cargo pilferage-risk-profile, delays caused by port congestion, increasing trend of cargo dwell time trend, cumbersome cargo examination procedures and bottlenecks, multiplicity of government agencies and port charges, poor state of port infrastructure and superstructure, etc., have been identified in many publications as factors that negatively affect the efficiency of the ports industry as well as that increase the cost and risk of shipping goods through Nigerian ports (Aylin & Yucel ,2016; Nwokedi et al, 2016**).** These are maritime transport challenges which the study of and implementation of maritime logistics concepts should eliminate or reduce drastically. However, it is believed the trade globalization has serious influences on the maritime transport systems and the ports in Nigeria such that an understanding of the impacts of globalization on the outputs and measures of maritime and port logistics systems is necessary in order to achieve improved time and cost of port usage in Nigeria. The influence of globalization of the performance of the maritime transport and port systems in terms of revenue, tonnage cum volume of shipping trade facilitated, ship traffic handled, and the GDP can equally be examined as basis for performance improvement in the face of perceived increasing trend of trade globalization. Thus the basis for understanding from empirically based information whether the growth in

global maritime trade transactions handled in Nigerian ports improved or hurt Nigeria maritime sector performances is provided in the study.

Dreher (2006**)** argued that the term globalization is used to describe the growing interdependence of the world's economies, cultures, and populations, brought about by cross-border trade in goods and services, technology, and flows of investment, people, and information. According to Dreher, (2006**)**, nations over the years developed economic ties and partnerships that have ensured cross-border trade in goods and services between trade organizations and individuals in different foreign countries. Economically, globalization entails the exchange between member of the international community and foreign countries, of goods, services, data, technology, capital, economic resources and the expansion of global market activities of the exchange of goods and funds; removal of cross-border trade barriers and the consequent formation of global markets. Advances in transportation, like the steam locomotive, steamship, jet engine, and container ships, and developments in telecommunication infrastructure, like the telegraph, Internet, mobile phones, and smartphones, have been major factors in globalization and have generated further interdependence of economic and cultural activities around the globe (Chinn and Ito (2006); and Czaika, Haas and Villares-Varela; 2017**).** Historically, globalization efforts commenced following centuries of European colonization and trade activity, referred to as ' first wave' of globalization which was propelled by steamships, railroads, the telegraph, and other breakthroughs, and also by increasing economic cooperation among countries. The first wave of globalization waned following the events of World War I, and the consequent postwar protectionism, the Great Depression, and World War II. The post-World War II period in the mid-1940s, saw the United States lead efforts to revive international trade and investment under negotiated ground rules, thus, commencing the second wave of globalization. Many studies have identified that globalization have wide range of effects including economic,

social, political, cultural, and other effect types. These include both beneficial and negative effects. It is therefore true that while globalization enhanced by major technological advances, benefits society as a whole, it also have harmful effects on certain groups (Chinn, and Ito 2008; Gygli et al 2019). Thus understanding the relative costs and benefits of globalization and how it affects a given economy would make room for development of measures for alleviating problems while sustaining the wider payoffs. In the maritime sector for example, while the effective implementation of maritime logistics functions promotes efficiency, output (increased shipping import and export trade flow, GDP), and the associated time and cost of maritime business transaction; trade globalization can serve as a tool to improve volume and tonnage of shipping trade flow and improve revenue, output as well as create employment. But it could also for example, place pressure on the port infrastructure and service sector through increased demand by increasing cost of port service delivery, ocean transport cost and time of service delivery measured in terms of ship turnaround time and cargo dwell time. The implication is that there is need for individual countries to first investigate what influences globalization exert on the economy and the variables of economic development in order to determine how best to allow the full adoption and implementation of globalization strategies and policies or regulate it with local instruments. The current study is aimed at examining how exactly globalization influences maritime trade and logistics in the Nigeria maritime sub-sector. To be able to measure the impacts of globalization on economies and economic measures, the International Monetary Fund (IMF) in year 2000 identified four basic aspects of globalization namely:

(i) trade and transactions,

(ii) Capital and investment movements,

(iii) migration and movement of people,

(iv) and the dissemination of knowledge (IMF, 2000; Gygli et al , 2019);

While Academic literature commonly divides globalization into three major areas: economic globalization, cultural globalization, and political globalization. Maritime trade and shipping operations represent economic and trade activities. Thus, our emphasis in this study is in examining the influence of economic globalization (trade and transaction; and capital investment movements) on shipping trade and maritime logistics in Nigeria.

The Swiss Economic Institute (SEI) developed the KOF Globalization Index (KOFGI) as a measure of the economic, social and political dimensions of globalization in a given economy (Gygli et al, 2019). The KOF globalization index identified that globalization in the economic, social and political fields have been on the rise since the 1970s, receiving a particular boost after the end of the Cold War. Table-1.1 below shows the various types of globalization index identified by the SEI for measuring various aspects of globalization in an economy (Gygli et al, 2019).

Table 1: 2021 KOF globalization Index: Variables description

Dimension	**Variable Name**	**Variable Definitions**
Trade globalization, de facto (KOFTrGIdf)	Trade in goods, 2021	Exports and imports of goods (% of GDP).
	Trade in services 2021	Exports and imports of services (% of GDP).
	Trade partner diversity	Average of the Herfindahl-Hirschman market concentration index for exports and imports of goods (inverted).
Trade globalization, de jure (KOFTrGIdj)	Trade regulations Tared taxes (inverted) Tariff rates Trade agreements, number of bilateral and multi-lateral trade agreements	Average of two subcomponents: Prevalence of non-tariff trade barriers and compliance costs of importing and exporting. Income from taxes on international trade as percentage of revenue, World bank, 2021
Financial globalization, de facto (KOFFiGIdf)	Foreign direct investment foreign direct investments Portfolio investment	Sum of stocks of assets and liabilities of foreign direct investments (% of GDP). Sum of stocks of assets and liabilities of

	international equity portfolio investments International income payments	international equity portfolio investments (% of GDP). Sum of inward and outward stocks of international portfolio debt securities and international bank loans and deposits (% of GDP). Includes foreign exchange (excluding gold), SDR holdings and reserve position in the IMF (% of GDP). Sum of capital and labour income to foreign nationals and from abroad (% of GDP).
Financial globalization, de jure (KOFFiGIdj)	Investment restrictions Capital account openness International investment agreements	Chinn-Ito index of capital account openness. Number of Bilateral Investment Agreements (BITs) and Treaties with Investment Provisions (TIPs)

Source: IMF, 2021.

While the above four represent KOF economic globalization indicators (KOGGI), other globalization indicator determined by the SEI include:

(i) Interpersonal globalization, de facto (KOFIpGIdf)

(ii) Interpersonal globalization, de jure (KOFIpGIdj

(iii) Informational globalization, de facto (KOFInGIdf)

(iv) Informational globalization, de jure (KOFInGIdj)

(v) Cultural globalization, de facto (KOFCuGIdf)

(vi) Cultural globalization, de jure (KOFCuGIdj)

(vii) Political globalization, de facto (KOFPoGIdf)

(viii) Political globalization, de jure (KOFPoGIdj)

In this study, we placed emphasis on the influence of economic globalization on shipping

trade and maritime logistics in Nigeria. Thus, the influences of the four identified KOF globalization index (KOFGI) namely: Trade globalization, de facto (KOFTrGIdf), Trade globalization, de jure (KOFTrGIdj), Financial globalization, de facto (KOFFiGIdf) and Financial globalization, de jure (KOFFiGIdj) on values of shipping export and import trade, port revenue, volume of cargo carried by sea to Nigeria, ship turnaround time, cargo dwell time in Nigeria and port cost will be examined in detail.

1.2 Problem Statement

Several studies have argued in favour and against trade liberalization and globalization in weak economies and developing countries such as Nigeria. The proponents and supporters of trade liberalization and globalization argue that it encourages economic growth, wealth creation and economic development consequent from the increased flow of trade in goods and services, foreign direct investment and foreign capital brought about by the freedom of foreign nationals other than the citizens of the local country to invest in and trade in the reference country. Other views against trade liberalization and globalization is that it is a major cause of dumping in weak nations, death of local indigenous firms induced by unfavorable competition with foreign firms and the consequent loss of jobs and employment opportunities, capital flight caused by the repatriation of profits in hard currency by foreign firms, pressure on the inadequate infrastructure such as port facilities, rail and road infrastructure in weaker nations with the associated costs, among many other disadvantages of the globalization and trade liberalization identified in available empirical literature. The implications is that just as trade liberalization and globalization have beneficial effects as aforementioned, it also have negative impacts so that at any given point in time, a developing country with weak economy should analyze the significance of the impacts of liberalization and globalization policies, and determine how best to curtail the negative impacts of

globalization given the significance of such impacts, before opening its doors to implementation of strategies that partially or wholly enhance trade globalization.

In Nigeria for example, the maritime sub-sector of the national economy is the fulcrum upon which other sectors of the economy depends. The maritime transport sub-sector in conjunction with the offshore oil and gas industry sub-sector is highest revenue contributor to the Federal government. Much foreign operators and foreign direct investment is witnessed in this sub-sector over the years, providing evidence of elements of globalizations in the maritime –sub-sector. However, the trade liberalization and globalization policies of government in this important sub-sector is still unclear and undefined. The dirt of indigenous shipping companies and ship operators, and poor performance of indigenous firms in international shipping trade (shipping import and export trade) has been linked to the domination of the industry by both foreign operators and shippers. The basic problem is the seeming assumption by policy managers in the Nigeria maritime sector that trade liberalization and globalization in the sector has solely beneficial effects, thus attempt is not made to understand holistically the impacts of globalization on the output of the maritime sector and maritime logistics and the significance of such impacts so as to protect local operators in the maritime sector from the negative impacts of globalization. Thus, there is a seeming lack of empirical formation of the impacts and significance of the impacts of trade globalization on maritime trade and logistics as basis for developing polices for the protection of indigenous operators and shippers in the sector from the negative effects of trade globalization in the Nigerian maritime sub-sector. The port logistics sector in Nigeria as a component of the overall maritime logistics system faces pressure induced by trade globalization such that the Ship Turnaround Time (STRT), Cargo Dwell Time (CDT), port cost (port dues and charges), among other port logistics indices faces increasing trend over the years to the disadvantage of the overall economy. It is important to assess the influence of

globalization on the aforementioned port-logistics indicies using the globalization index and measures. These will provide empirical information and basis for developing policies and strategies to proactively influence trade liberalization and globalization and the benefit and development of the maritime trade and sub-sector.

1.3 Aim and Objectives of the Study

The aim of the study is to determine the effects of economic globalization on maritime trade and logistics in Nigeria. The specific objectives of the study include:

(i) To determine the effects of economic globalization on the value of Nigerian shipping export trade

(ii) To ascertain the relationship between economic globalization and value of shipping import trade in Nigeria

(iii) To model the relationship between globalization of ship calls to Nigerian ports

(iv) To estimate the significances of the influence of economic globalization on the Gross Domestic Product (GDP) of the maritime sub-sector in Nigeria

(v) To evaluate the influence of globalization in ship turnaround time in Nigerian ports

(vi) To model the relationship between economic globalization and cargo dwell time in Nigerian ports

(vii) To assess the effects of globalization on port revenue in Nigeria

1.4 Research Questions

The following questions will be addressed in this study:

(i) What is the significance of the effects of economic globalization on the value of shipping export trade in Nigeria?

(ii) What is the significance of the relationship between economic globalization and value of shipping import trade in Nigeria?

(iii) What is the relationship between globalization of ship calls to Nigerian ports?

(iv) What is the level of significance of the influence of economic globalization on the Gross Domestic Product (GDP) of the maritime sub-sector in Nigeria?

(v) What is the influence of economic globalization on ship turnaround time in Nigerian ports?

(vi) What is the relationship between globalization and cargo dwell time in Nigerian ports?

(vii) What is the effect globalization on port revenue in Nigeria?

1.5 Hypotheses

H_{01}: There is no significant effect of economic globalization on the value of shipping export trade in Nigeria

H_{02}: There is no significant relationship between economic globalization and value of shipping import trade in Nigeria.

H_{03}: The relationship between economic globalization of ship calls to Nigeria ports is not significant.

H_{04}: There is no significant influence of globalization on the Gross Domestic Product (GDP) of the maritime sub-sector in Nigeria.

H_{05}: There is no significant influence of economic globalization on ship turnaround time in Nigerian ports

H_{06}: there is no significant relationship between globalization and cargo dwell time in Nigerian ports

H_{07}: There is no significant effect of globalization on port revenue in Nigeria

1.6 Significance of Study

This study examined the effects of trade globalization on maritime trade and logistics in Nigeria. The study will be useful to the major stakeholders and policy makers in the nations maritime industry for purposes of midwifing policies aimed at curtailing the negative effects of globalization in the nation's maritime industry in particular and economy in general. It will be significantly useful to the Nigeria ports authority (NPA), the Nigerian Maritime Administration and safety Agency (NIMASA), the Nigerian Shippers Council (NSC), the Nigerian indigenous ship-owners association (NSA), the Nigeria customs, the export promotion council; among a host of other agencies in developing and implementing strategies that will protect the economic interest of Nigerians in the maritime sector from hurtful effects of trade and economic globalization. The study will also be useful to academic and research institutions, researchers and students in the area of maritime trade and shipping as basis or further research in economics of globalizations in the maritime industry.

1.7 Scope of Study

Theoretical Scope: The theoretical scope of the study covers only the effect of trade globalization on only seven major variables of maritime trade and logistics which include:

(i) Shipping export trade

(ii) Shipping import trade

(iii) GDP maritime sector

(iv) Port revenue

(v) Ship calls to Nigerian ports

(vi) Ship turnaround time in Nigerian ports, and;

(vii) Cargo dwell time in Nigerian ports

Though there are other indices that can stand as proxies for maritime trade and logistics, the theoretical scope of the study did not extend beyond the identified seven proxies above. The KOF globalization index used is also limited to the four economic and trade KOF globalization index directly related to trade and economic investment which include:

(i) Trade globalization, de facto (KOFTrGIdf)

(ii) Trade globalization, de jure (KOFTrGIdj)

(iii) Financial globalization, de facto (KOFFiGIdf)

(iv) Financial globalization, de jure (KOFFiGIdj)

Time Scope: The data used for the study is a time series data covering a period of 15 years from 2005 to 2019. Therefore the time scope over which the effect of globalization of maritime trade and logistics in Nigeria was estimated is between 2005 and 2019.

Geographical Scope: The geographical scope of the study in Nigeria, with specific concentration on the Nigerian maritime industry and economy.

1.8 Limitation of Study

Time and financial constraints constitute the greatest factors that posed limitations to the quick delivery of the study. Through strict adherence to the study plan, the researcher was able to over the limitations imposed by time while financial support from my family enabled me to overcome the financial constants to be able to complete the study.

CHAPTER TWO

LITERATURE REVIEW

2.1 Conceptual Framework

Under this section, the researcher identified and explained the key concepts of the study. It also explained the relationship between the major concepts and variables used in the study in relation to the objectives of the study. Some of the major concepts explained in the study include but are not limited to: concept of globalization, concept of maritime logistics, concept of Trade globalization, de facto (KOFTrGIdf), Trade globalization de jure (KOFTrGIdj), Financial globalization, de facto (KOFFiGIdf), Financial globalization, de jure (KOFFiGIdj), among others. The researcher here tried to x-ray the connection between Globalisation and the maritime economy of Nigeria and how globalization influences the flow of shipping trade and maritime logics through the seaports.

2.1.1 Concept of Globalization and the Relationship with Maritime Trade

Studies by Dappa and Otuya(2010**)** argue that the term globalization is used to describe the growing interdependence of the world's economies, cultures, and populations, brought about by cross-border trade in goods and services, technology, and flows of investment, people, and information. According to Dappa and otuya (2010) nations over the years developed economic ties and partnerships that have ensured cross-border trade in goods and services between trade organizations and individuals in different foreign countries. Economically, globalization entails the exchange between member of the international community and foreign countries, of goods, services, data, technology, capital, economic resources and the expansion of global markets activities of the exchange of goods and funds; removal of cross-border trade barriers and the consequent formation of global market. Advances in transportation, like the steam locomotive, steamship, jet engine, and container ships, and

developments in telecommunication infrastructure, like the telegraph, Internet, mobile phones, and smartphones, have been major factors in globalization and have generated further interdependence of economic and cultural activities around the globe (Pieterse, 2004). Historically, globalization efforts commenced following centuries of European colonization and trade activity, referred to as ‘ first wave’ of globalization which was propelled by steamships, railroads, the telegraph, and other breakthroughs, and also by increasing economic cooperation among countries. The first wave of globalization waned following the events of World War I, and the consequent postwar protectionism, the Great Depression, and World War II. The post-World War II period in the mid-1940s, saw the United States lead efforts to revive international trade and investment under negotiated ground rules, thus, commencing the second wave of globalization. Many studies have identified that globalization have wide range of effects including economic, social, political, cultural, and other effect types. These include both beneficial and negative effects. It is therefore true that while globalization enhanced by major technological advances, benefits society as a whole, it also has harmful effects on certain groups. Thus understanding the relative costs and benefits of globalization and how it affects a given economy would make room for development of measures for alleviating problems while sustaining the wider payoffs (Pieterse, 2004).. In the maritime sector for example, while the effective implementation of maritime logistics functions promotes efficiency, output (increased shipping import and export trade flow, GDP), and the associated time and cost of maritime business transaction; trade globalization can serve as a tool to improve volume and tonnage of shipping trade flow and improve revenue, output as well as create employment. But it could also for example, place pressure on the port infrastructure and service sector through increase demand by increasing cost of port service delivery, ocean transport cost and time of service delivery measured in terms of ship turnaround time and cargo dwell time. The implication is that there is need for individual

countries to first investigate what influences globalization on the economy and the variables of economic development in order to determine how best to allow the full adoption and implementation of globalization strategies and policies or regulate it with local instruments. This study is aimed at examining how exactly globalization influences maritime trade and logistics in the Nigerian maritime sub-sector. To be able to measure the impacts of globalization on economies and economic measures, the International Monetary Fund (IMF) in year 2000 identified four basic aspects of globalization namely:

(v) trade and transactions,

(vi) Capital and investment movements,

(vii) migration and movement of people,

(viii) and the dissemination of knowledge (Gyli, Savina, Florian, Niklas, Jan-Egbert, 2019);

while Academic literature commonly divides globalization into three major areas: economic globalization, cultural globalization, and political globalization. Maritime trade and shipping operations represent economic and trade activities. Thus, our emphasis in this study is in examining the influence of economic globalization (trade and transaction; and capital investment movements) on shipping trade and maritime logistics in Nigeria.

The Swiss Economic Institute (SEI) developed the KOF Globalization Index (KOFGI)as a measure of the economic, social and political dimensions of globalization in a given economy (Gyli, et al, 2019). The KOF globalization index identified that globalization in the economic, social and political fields have been on the rise since the 1970s, receiving a particular boost after the end of the Cold War. Table-1 below shows the various types of globalization index identified by the SEI for measuring various aspects of an economy.

Table-2.1: 2021 KOF globalization Index: Variables description

Dimension	Variable Name	Variable Definitions
Trade globalization, de facto (KOFTrGIdf)	Trade in goods, 2021	Exports and imports of goods (% of GDP).
	Trade in services 2021	Exports and imports of services (% of GDP).
	Trade partner diversity	Average of the Herfindahl-Hirschman market concentration index for exports and imports of goods (inverted).
Trade globalization, de jure (KOFTrGIdj)	Trade regulations Tared taxes (inverted) Tariff rates Trade agreements, number of bilateral and multi-lateral trade agreements	Average of two subcomponents: Prevalence of non-tariff trade barriers and compliance costs of importing and exporting. Income from taxes on international trade as percentage of revenue, World bank, 2021
Financial globalization, de facto (KOFFiGIdf)	Foreign direct investment foreign direct investments Portfolio investment international equity portfolio investments International income payments	Sum of stocks of assets and liabilities of foreign direct investments (% of GDP). Sum of stocks of assets and liabilities of international equity portfolio investments (% of GDP). Sum of inward and outward stocks of international portfolio debt securities and international bank loans and deposits (% of GDP). Includes foreign exchange (excluding gold), SDR holdings and reserve position in the IMF (% of

		GDP). Sum of capital and labour income to foreign nationals and from abroad (% of GDP).
Financial globalization, de jure (KOFFiGIdj)	Investment restrictions Capital account openness International investment agreements	Chinn-Ito index of capital account openness. Number of Bilateral Investment Agreements (BITs) and Treaties with Investment Provisions (TIPs)

Source: Gyli, Savina, Florian, Niklas, Jan-Egbert, 2019).

While the above four represent KOF economic globalization indicators (KOGGI), other globalization indicator determined by the SEI include:

(ix) Interpersonal globalization, de facto (KOFIpGIdf)

(x) Interpersonal globalization, de jure (KOFIpGIdj

(xi) Informational globalization, de facto (KOFInGIdf)

(xii) Informational globalization, de jure (KOFInGIdj)

(xiii) Cultural globalization, de facto (KOFCuGIdf)

(xiv) Cultural globalization, de jure (KOFCuGIdj)

(xv) Political globalization, de facto (KOFPoGIdf)

(xvi) Political globalization, de jure (KOFPoGIdj)

In this study, we placed emphasis on the influence of economic globalization on shipping trade and maritime logistics in Nigeria. Thus, the influences of the four identified KOF globalization index (KOFGI) namely: Trade globalization, de facto (KOFTrGIdf), Trade globalization, de jure (KOFTrGIdj), Financial globalization, de facto (KOFFiGIdf) and Financial globalization, de jure (KOFFiGIdj) on values of shipping export and import trade, port revenue, volume of cargo carried by sea to Nigeria, ship turnaround time, cargo dwell

time in Nigeria and port cost will be examined in detail.

2.1.2 Concept of Maritime Logistics and the Proxies for Maritime Logistics

Logistics is viewed as the total process of planning and managing the acquisition, transportation, storage, handling and administration of usage of resources by organizations, firms or individuals (Aylin & Yucel, 2016). It involves the planning and administration of the processes involved in needs identification, sourcing and order placement, order processing, order fulfilment cum purchasing, packaging, transportation and distribution, materials handling, storage, materials management associated with both inbound and outbound logistics systems, management of the supply chain and transportation nodes, etc; in securing the delivery of goods and services from consignors and consignees; and the optimal management of the use of the goods and services in enhancing the performance goals of organizations. It's origin was linked to the planning strategies and operations of the United States military operations during the second World War (Aylin & Yucel, 2016; Nwokedi et al, 2019). Logistics from Military perspectives is a term used in reference to how military personnel obtained, stored, and moved equipment and supplies. Business logistics specifically addresses the planning and administration strategies exercised by companies in the manufacturing and allied sectors, to refer to how resources are handled and moved along the supply chain. Since supplies are very vital in the life sustainable existence of all organizations and business entities from the manufacturing, trading, to service organizations, logistics is that, which coordinates the supply and use of these supplies. It is therefore central to the effective and efficient performance of firms.

Studies by Aylin & Yucel (2016) identified the key activities present in Logistics management as:

- Accumulation and assignment of supervision and plans.

- Seller and customer order management
- Accurate and safe packing, handling, and transport management.
- Optimization of the beneficial impacts of transport nodes and modes on trade
- Both inbound and outbound logistics activities.
- Management of supply chain and blending other relative actions.
- Individual track of goods across the complete supply chain.
- Selection and management of various vendor links.
- Streamlining and scrutiny of the transportation and products carried in the process.

In the performance of the above functions; studies by Hyeon-Seung et al (2019) and Aylin & Yucel (2016) agreed that the extended simplified main goal of logistics management is to get the best and effective ways to transfer the resources and products from consignor to the consignee safely, cost effectively and timely. By implication, efficient logistics management gingers improved returns on investment (ROI) of the concerned organization. It enhances customer service, enhances brand value, creating more opportunities for the business (Aylin & Yucel, 2016; Nwokedi et al, 2021). As there is enhanced transparency in the supply chain there is a great chance to minimize operational costs, maintaining the right inventories, and shaping the best flow of goods. Thus central goals and objectives for implementation of logistics functions and activities by individual organizations is to:

(i) Optimize cost (transportation cost, operational cost, stock-out cost, etc)

(ii) Optimize time (delivery time, operational time, production time, machine hours, etc)

(iii) Enhance efficiency in both inbound and outbound logistics systems

(iv) Fulfilling customer requirements and orders timely and efficiently

(v) Eliminate negative disruption to the supply chain system

(vi) Eliminate safety and security threats/risks (pilferage risks, damage to goods, etc)

(vii) Ensure quality is maintained and achieved

(viii) Optimized inventory levels

(ix) Optimize or reduce tax burdens

The maritime transport sub-sector has evolved as a major mode of transporting shipping import and export (foreign) trade across countries with bilateral trade agreements. Strategic planning and administration of the very complex processes and procedures involved in the carriage of foreign trade by sea cannot be underestimated in ensuring the achievement of efficient and effective maritime transport system that supports the realization of the central goals and objectives of logistics aforementioned (Hyeon-Seung et al; 2019). Thus the concept of 'maritime logistics' which involved the marriage of logistics and maritime transportation and the superimposition of the logistics management activities and functions on traditional maritime transport practices, to actualize the efficiency, cost optimization, time optimization, customer satisfaction, qualitative products and services, etc., in the operations of the maritime transport sub-sector and the allied organizations such as the seaports, shipping companies, shipping agencies, shippers and shippers organization, etc.

Maritime logistics, in the context of this study, similar to port logistics, is an integrated concept that addresses all aspects of logistics and supply chain challenges associated with maritime transportation and the delivery of goods via the seaports (Aylin & Yucel, 2016). Its focus is to improve and/or maximize the efficiency, cost-effectiveness, time, safety and security service, quality, utility/customer satisfaction, etc., associated with the use of maritime transport and seaports in the delivery of consignments by shippers and freight forwarders. According to Yevgeniy et al (2015), logistics as a process refers to planning, execution and managing the movement of products and information, from one point to another, aimed at achieving cost effectiveness, time optimization, performance maximization, utility maximization and customer satisfaction (Yevgeniy et al, 2015) and Hyeon-Seung et

al, 2019). In the maritime industry, the complex nature of the maritime sub-sector requires the incorporation of the logistics functions and activity areas when addressing the numerous challenges and bottlenecks to efficiency in service delivery and port-user satisfaction in the sub-sector. For example, all maritime-related fields, such as ship ownership, chartering, shipping agencies, brokering, freight-forwarding, stevedoring, supply management, port operations, etc. are separate operating units. However, they are integrated in the functions of port/maritime logistics (Nwokedi et al, 2021). Within the port operations as such, it shall be noted that port logistics sector as an aspect of maritime logistics is associated with the application of the logistics functions in port operations, management and administration to achieve the core goals of logistics (cost effectiveness, time optimization, utility maximization and customer satisfaction, performance improvement, etc.) as mentioned above. Thus, many factors related to port operations and activities included in port logistics as a unit of maritime logistics influence the efficiency, cost, effectiveness, time, safety and security, service quality, utility/customer satisfaction, etc., based on the use of ports by shippers and freight forwarders (Nwokedi et al, 2021).

The Seaports are critical components of the maritime transport systems and important nodes in the transport, logistics and supply networks associated with international trade. Seaports are as a result, critical component of the entire maritime logistics system, that need efficient implementation of logistical functions, to overcome identified major challenges and bottlenecks, to the flow of shipping import and export trade (Aylin & Yucel, 2016). Thus, the level of planning and administration of port operations as major activity area in maritime logistics, significantly influences port costs, freight rates (ocean transport cost) delivery time, Gross Domestic Product of maritime transport (output), efficiency, safety and security risks associated with the use of maritime transport mode, in delivering international seaborne trade. Therefore, the output and measures of the implementation of logistics management functions

in the maritime transport sub-sector (maritime logistics) may be viewed from the perspectives of prevailing levels of port costs (dues and charges), freight rates (ocean transport cost) delivery time (ship turnaround time and cargo dwell time), Gross Domestic Product of maritime transport (output), pilferage risks (security risk), damages to cargo and loss of shipment (safety) associated with the use of a particular port system. It is expected that while the implementation of logistics functions in maritime transport should improve the output (GDP) of the sector, it should reduce or optimize cost and time spent in ports as well as reduce cargo damage and pilferage risks associated with safety security challenges in the ports.

In Nigeria, trend of ship turnaround time, cargo pilferage-risk-profile, delays caused by port congestion, increasing trend of cargo dwell time trend, cumbersome cargo examination procedures and bottlenecks, multiplicity of government agencies and port charges, poor state of port infrastructure and superstructure, etc., have been identified in many publications as factors that negatively affect the efficiency of the ports industry as well as that increase the cost and risk of shipping goods through Nigerian ports (Aylin & Yucel, 2016). These are maritime transport challenges which the study of and implementation of maritime logistics concepts should eliminate or reduce drastically. However, it is believed the trade globalization has serious influences on the maritime transport systems and the ports in Nigeria such that an understanding of the impacts of globalization on the outputs and measures of maritime and port logistics systems is necessary in order to achieve improved time and cost of port usage in Nigeria. The influence of globalization of the performance of the maritime transport and port systems in terms of revenue, tonnage cum volume of shipping trade facilitated, ship traffic handled, and the GDP can equally be examined as basis for performance improvement in the face of perceived increasing trend of trade globalization. Thus the basis for understanding from empirically based information whether the growth in

global maritime trade transactions handled in Nigerian ports improved Nigeria maritime sector performances is provided in the study.

2.1.3 Drivers of Globalization and Maritime Logistics Activities in Nigeria

The term Globalization has no generally accepted definition; most definitions basically depend on the business angle and perspective it's been viewed from. However, there're things that are common in most definitions which are: the growing rate of interconnectivity between countries, greater business corporations, bilateral agreements, treaties etc., aim at moving people, goods and information from region of lower economic value to location of high economic importance thereby shrinking the world into global entity (Kumar and Hoffman, 2002). Globalization is the process of interaction and integration among people, companies, and governments worldwide (Kumar and Hoffman, 2002). Globalization has accelerated since the 18th century due to advances in transportation and communication technology. Globalization is the word used to describe the growing interdependence of the world's economies, cultures, and populations, brought about by cross-border trade in goods and services, technology, and flow of investment, people, and information (Kumar, et al , 2002). Globalization is the movement of goods, information and people all around the world taking advantage of cross-Atlantic transport and advancement in technology. Maritime Logistics has been viewed to be the engine that propels globalization which aid to transport people (passengers), Information and raw materials such as mineral resources and Agricultural produce to various parts of the world where they can be processed, transformed and produced with less cost due to availability of cheap Labour (Manpower), facility, equipment (machines), technology and energy (power). It is therefore justified to say that globalization dare to identify nations where production cost are both Labour and capital intensive which makes the market of consumer's produce highly expensive which in turn encourage the transport of raw materials and intermediate products to place where

expenditure on processing them into both consumer and semi-consumer products are less by taking advantage of cheaper means of transportation via Maritime transport. To understand the link between globalization and Maritime Logistics which is the pivot of import and export activities, we look at the activities of what raw materials are generated and what transformational activities of these raw materials into intermediates or finished products to commercial quantities that warrant or attracts an organized Transportation planning system or Logistics processes to be put in place (Kumar, et al , 2002; Angel, 2007).

In consonance with history, Nigeria like other Nations in Africa were at pre-colonial era solely an Agricultural oriented nation, with a beehive of activities in the sector and all revenue were also generated from through agricultural activities in the country, imports and exports, or cross-border trade if any at that time, were solely based on agriculture. However, the system of revenue generation and other related activities took a different dimension on the event of the invasion of the white into Africa (the Colonial era). The discovery of raw materials including Mineral resources took center stage as agriculture was given less attention. One of the most focused discovery was crude oil (Petroleum) and natural gas. But prior to this time, different regions in Nigeria were usually known have potentials for the the export of agricultural produce which creates massive employment for the people (both direct and indirect employment). For example, the states in the northern Region were known for their cultivation of crops such as onion, water melon, melon, Yam, beans, rice, sugarcane, millet and the popular groundnuts pyramids in Kano. Most northern states were also known for growing cotton, which was used in the Textile industries. The West and Eastern Regions were majorly popular for cultivating cash crops such as cocoa, palm nuts and oil, etc. Hence there began a new era, the nation began to experience a paradigm shift on the inspection of the colonial intruders making discoveries of mineral resources in these regions. Agriculture which the people were formerly known for, gradually diminished and less priority was given

to it and greater attention focused on these new activities of Mineral discoveries. We saw the mining of coal in commercial quantities in the city like Enugu, Tin Ore in some northern states such as Plateau (Jos), Nasarawa etc., and Gold in Zamfara though also the mining of Gold in that part of the country is not being accounted for. On how many jobs it created, what amount of revenue does the country generates from gold that goes into the federation account, what are the tax collected from this huge gold ore mining in Nigeria, and what are the export effects to the GDP annually, all these are still ambiguous questions the citizens are asking the government till date and answers are provided. The Political Elites who exploits this particular high revenue generation national assets rather they play to the gallery as cartels and Mafias sponsoring crisis, violence and using Bandit to terrorize the host communities and the country at large. Nigeria also possesses other mineral resources such as Magnesium, diamond, though has not being properly harnessed for exports to generate revenue for government and create jobs. These and other raw materials were since the colonial and post-colonial era discovered but has either not properly harnessed, abandoned or not accounted for by various successive government. The question remains what are government's road maps, plans and clear policies towards harnessing these untapped mineral resources. However, oil and natural gas exploitation has since colonial and post-colonial era remained the only substantive source of revenue generation and major export commodity in the country on which government budgets centres upon and government spending are based and the trending oil and gas price in the international market affects the country's annual spending and if projected benchmark goes otherwise may results to constant borrowing to fund its budgets as experienced in the present government. And globalization has brought about the major players in this major sector of the country's economy to have being dominated by the foreign companies, IOCs leaving the host country (indigenous Companies contributions) to play peripheral supports eating crumbs on the floor. Though there're said to be MOU usually

signed from inspection and monitored by government institutions and agencies such as NNPC, DPR, NIATI, Local Content, etc. but still not visible impact is seen in this sector apart from the area of government revenue that's 60% of oil produced/mine to FG through NNPC, tax collection by the IOCs paid to FG also through FIRS, State and Local Governments as the case may be through their revenue agencies, but in terms of job creation, Job security and better treatment of indigenous employees is still in doubt. It's worthy to note here that, though the MOU says 60 : 40, that's 60% of whatsoever these Companies got should be remitted to the Federal Government through NNPC. These government institutions have not done much to ensure that the provision in the MoUs that require the Government and the International oil companies to ensure the participation of local indigenes in the resources exploration and exploitation activities and employment, and especially training to expertise knowledge and services.

However, Nigeria as a country has not overcome the impacts of the Post-Colonization sickness called "Neo-Colonization", there exist no strong government policies to tackle the issue of many government assets and potential export companies such as Ajeokuta Steel company in Kogi state and other textiles industries in the country, which has remained moribund till date. Huge amounts of resources have continuously been appropriated for the revitalization over the years without success. On the other hand government do not make and enforce good policies that would drive the economy by attracting investors and encouraging already existing potentially viable export companies through provision of reliable system, security, organized tax collection, infrastructure such as good road network and electricity, which pushes most of these investors from investing in Nigeria rather preferred the choice of establishing in neighboring countries where these basic systems are available and functional. Companies such as Michelin tyres, Uniliver PLC, etc both are known to have relocated to establish in Ghana and Nigeria been a huge market with the population estimate of 180

million people, all these companies who fled Nigeria due to poor government sincerity or organized system still target Nigerian market to sale their finished products to the final consumers only no stage Nigeria takes part in the value addition of products transformation processes which is where the major activity brought about jobs creation. Moreover, it was reported that Toyota and Volkswagen vehicles recently launched a new manufacturing plant in same Ghana and also targeting Nigerian market for import and sales. Its worthy of note that as these Companies fled out of Nigeria, millions of direct jobs also left, thereby casing increase in unemployment level in the country, and lots of revenue it would've also generated through value addition via transformation of raw materials into intermediates and finished products, exports and in turn increase in the growth of our GDP. Basically, thousands of raw materials in millions of metric tons have being continuously moved out of Nigeria on a daily basis to where they could be transformed, refined and in most cases imported back to the country and resold at far higher prices.

For example, in the oil and gas sector of the economy, Globalization made it possible for the key players in the oil and gas industry to cease the advantage of cheap transportation via the Maritime Logistics, it's so economically unrealistic to portray the analysis of the effects of transforming and refining the only and major source of revenue generation of the country in foreign refineries, the daily bulk cargo shipment of millions of barrels of crude oil and natural gas to foreign country and upon import back to the country, the pump prices are very high, to the detriment of the local economy. Nigeria only gets 3% of value addition in the oil and gas industry. Figure-2 below presents an overview of how trade/maritime logistics is measured.

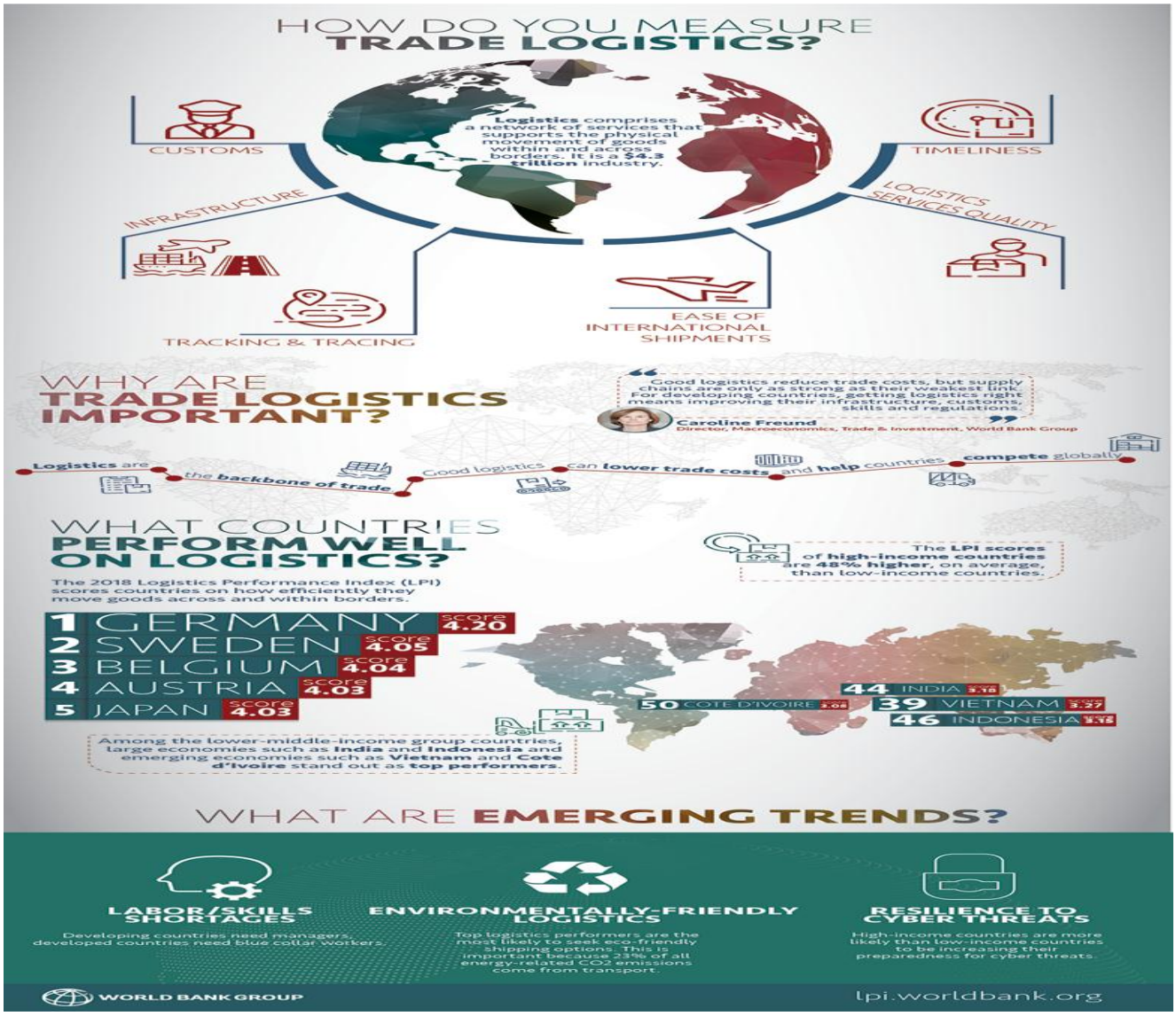

Fig.2.1: Measurement of Trade/Maritime Logistics.

Source: Kumar and Hoffman, (2002)

2.1.4 Review on Globalization and the impacts of Shipping and Maritime Transport

Having a coastline of over 750km and eight major ports excluding oil terminals, Nigeria is a maritime State. The national ports have a cargo handling capability of 35 million tones annually. These ports, over the past decade, have accounted for around 99 percent by volume and 95 percent by value of the country's total seaborne trade. The demand for shipping in

Nigeria has always been there, but Nigeria's indigenous shipping carriers lack adequate shipping capacity to participate effectively in international trade (Kumar and Hoffman, 2002). As a result Nigeria is losing enormous freight revenues to foreign shipping carriers which dominate our freight transport market and this pose a serious challenge to the development of the Nigerian shipping and maritime transport sub-sector.

It is hoped that the operational transport policy in Nigeria will provide a system of maritime administration that will in turn provide a more robust policy framework to encourage greater participation of indigenous shipping carriers and improve trade relations with trading partner countries. The question of shipping tonnage acquisition and supply requires a thorough understanding of the following: the existing and potential market demand for shipping tonnage at aggregate or disaggregated level; intensity of the demand along relevant sea routes, among other shipping market characteristics. Consequently the present situation in the Nigerian maritime sub-sector demands a serious increase in shipping tonnage from indigenous operators in order to position Nigeria to benefit maximally from her seaborne import and export.

According to Nwokedi et al (2021), seaborne trade remains the bedrock of shipping, international trade and maritime logistics. Seaborne trade refers to the movement of merchandise by vessels between the ports of origin, where merchandise is received from the exporter to port of destination where the merchandise is claimed by the importer (Ricciardi, 2006). The maritime sector is vital in connecting international seaborne commerce. Ocean-going vessels represent the most efficient method of conveying volumes of basic commodities and finished products. In 2006, about 2.7 billion tons of dry bulk cargo for instance, was carried by sea. This was over one-third of all international seaborne trade (Ricciardi, 2006). This represents an important demand for shipping tonnage for countries involved in merchant shipping. The implication is that, it is impossible to discuss the effects

of globalization on maritime logistics without specific reference being made to the tonnage, volume and value of seaborne import and export trade handled in ports, the vessel/ship traffic statistics handled in ports, the volume of revenue generated by ports in handling the seaborne commerce and the time of doing business in ports among other activities involved in logistics and trade planning (Nwokedi, et al, 2021).

2.2 Theoretical Review

Under this section, the various theories of globalization were discussed in relation to their effects on maritime trade and port logistics. Some of the theories of globalization discussed include: the World-system theory, the theories of global capitalism, the theory of network society, the theory of Marxism, among others. The sub-sections are as shown below:

2.2.1 The World-system Theory

The World-system theory of globalization focuses primarily on economic issues and the influence of globalization. World systems theory takes into consideration the unequal relationship between the Global North and the Global South. The theory was developed most extensively by Immanuel Wallerstein in the 1970' (Sklair, 2002). Proponets of the theory disagree with the idea that globalization creates a common playing field of equal opportunities. Instead, they argue that globalization further empowers those already made powerful through historical and socio-political manoeuvring (Sklair, 2002).

According to the world systems approach, the world is divided into regions: the core (rich and developed countries like the U. S. and Western Europe), the semi-periphery semi-industrialized countries like Brazil and India, and the periphery poor, often unstable and dependent countries, like much of Latin America and Africa. The main argument of the world system theorists is that there are inevitable winners and losers in the global economy. It is

within a core nation's interest to maintain dominance at the expense of semi- and peripheral nations. Power is concentrated in the core nations who control an unfair trade and investment system and often dictate the terms of economic relationships (Sklair, 2002). The flow of maritime trade between the rich Western Countries and the low income West African countries such as Nigeria in line with the propositions of the world-systems theory is bound to offer greater benefits to the powerful rich Countries than the poor countries. Therefore, to understand the significance of the benefits of seaborne trade with the rich Nations, poor Countries should meticulously investigate their trade relationships to ascertain the impact of globalization on maritime trade and port logistics so as to protect their various economies from the adverse effects of negative balance of trade.

2.2.2 Dependency Theory of Globalization

The World-systems theory was developed from the dependency theory which became popular in the 1960s and 1970s and which argues that the world is starkly divided between the haves and have-nots. The core nations of the Global North intentionally caused peripheral nations to remain underdeveloped, keeping them in a state of dependency. This relationship of exploitation and dependency occurred historically through slavery and colonialism (Burawoy et al, 2000; Robinson, 2004). World systems theory modified dependency theory by introducing the concept of the upward and downward economic mobility of nations. This system of dominance and dependency continues today through the Global North's dominance of the international trading system, the practices of transnational companies, and the reliance on Western aid–which is sometimes referred to as neo-colonialism(Sklair, 2002).. The Dependency theory enables for the sociological analysis of a size and capitalist analysis of maritime trade and port investment on a global scale. It's importance in the maritime logistics sector lies in its use in the investigation and questioning of the directions of maritime trade and commerce and the directions of the benefits of seaborne trade between powerful rich

nations and the poor nations. It can be deployed as a tool for developing maritime shipping policies that ensures that less powerful countries benefits maximally from their trade transactions with more powerful countries in the maritime and port logistics sector.

2.2.3 Theory of global capitalism

The theory of global capitalism shares opinion with the world-systems theory and emphasizes on the long-term and large-scale effect of capitalism processes that have culminated in globalization, and the centrality of global economic structures. It however differs from the world-systems theory in several essential respects. In particular, the theories of global capitalism tend to see globalization as a novel stage in the evolving system of world capitalism; hence the proponents tend to speak of capitalist globalization, one with its own, qualitatively new features that distinguish it from earlier epochs (Sklair, 2000). These theorist focus on a new global production and financial system that is seen to supersede earlier national forms of capitalism, and emphasize the rise of processes that cannot be framed within the nation-state/inter-state system that informs world-system theory – and indeed, much traditional macro social theory. Locating these practices in the field of a transnational global system, Sklair (2000) thus sets about to explain the dynamics of capitalist globalization from outside the logic of the nation-state system and critiques the 'state-centrism' of much extant theorizing. His theory involves the idea of the Transnational Capitalist Class (TCC) as a new class that brings together several social groups who see their own interests in an expanding global capitalist system: the executives of transnational corporations; 'globalizing bureaucrats, politicians, and professionals', and 'consumerist elites' in the media and the commercial sector (Sklair 2000). Robinson (2004) has advanced a related theory of global capitalism involving three planks: transnational production, transnational capitalists and a transnational state. An 'epochal shift' has taken place with the transition from a world economy to a global economy. In earlier epochs, each country

developed a national economy that was linked to others through trade and finances in an integrated international market. The new transnational stage of world capitalism involves the globalization of the production process itself, which breaks down and functionally integrates what were previously national circuits into new global circuits of production and accumulation. Transnational class formation takes place around these globalized circuits. Transnationally oriented fractions achieved hegemony over local and national fractions of capital in the 1980s and 1990s in most countries of the world, capturing a majority of national state apparatuses, and advancing their project of capitalist globalization. Globalization creates new forms of transnational class relations across borders and new forms of class cleavages globally and within countries, regions, cities and local communities, in ways quite distinct from the old national class structures and international class conflicts and alliances (Burawoy et al, 2000; Robinson, 2004).

The maritime and port logistics sector over the years has seen the globalization of the maritime and port logistics sector through the instruments of ports privatization and concession policies in line with the principles proposed in the theory of global capitalism. In Nigeria for example, several foreign (non-local) firms have gained significantly share of investments and operations in the Nigerian maritime and port logistics sector. The influence of this outcome of globalization in the nation's maritime sub-sector can be investigated and understood from the perspectives of the theory of global capitalism.

2.2.4 Globalization through the Lens of Neoliberalism

Neoliberalism has been used by scholars to describe an ideology that developed around the economic policies and international relations advocated by President Ronald Reagan in the United States and Prime Minister Margaret Thatcher in the United Kingdom in the 1980's (Sklair, 2000). Neoliberalism has its roots in the classic liberalism developed by economists and political thinkers like Adam Smith, John Locke, and Thomas Jefferson, who advocated

for limited government, laissez-faire economics, and the Rights of Man; while postulating that government should exist only to safeguard the inherent rights of its citizenry (Sklair, 2000). This brought social concerns, like the dignity of the individual, to bear upon economic arguments. Neoliberalists, however, focus entirely on economics, advocating for the privatization of industry, fiscal austerity, deregulation, free trade, and reductions in government spending in order to enhance the role of the private sector in the economy. The idea of free trade and deregulation by liberalists' spurred the process of modern globalization which has led to the development of internationalization and multinational corporations in various economic sector, including the maritime and port logistics sector. How these developments have affected maritime trade and the development of the port logistics sector in weak developing economies like Nigeria remains uncertain amongst the weak economies. Neoliberalists ignore social issues, but rather believe that economic mechanisms will address all social concerns. They argue that governments are inherently inefficient at creating sustained social and economic progress when compared with free markets. The postulation of the neoliberalism is that government regulation and oversight of trade and fiscal policies simply interfere in the free market, making it inefficient. Thus neoliberalism calls for global competition, as it believes that competition is the mechanism for progress in this economic approach to the world, and is the defining characteristic of human interaction. The market, driven by citizens/consumers, determines the value of systems and products, rewards wealth creation, and punishes inefficiency (Burawoy, 2000). The arguments by the neoliberalists promote all kinds of global competition, whether in markets, employment, technology, communications, the production of goods, or the availability of services. This supports their meta-narrative that more competition creates an equal playing field of opportunity and thus promotes globalization. They key postulations of neoliberalism are:

(i) Freedom of the Market: There should be unrestricted movement of money, goods, and services to markets, both local and international, and government should not impose any limits on private enterprise.

(ii) Limited Public Spending: Government should not be responsible or pay for public and social services such as building roads, bridges, provide drinking water or fund education, health care, public libraries etc.

(iii) Deregulation: Governments should withdraw all or most oversight of the market, because the market is believed to regulate itself, and all resources should be used to make profit.

(iv) Privatization: Public services should be given to private investors so that their capital value, or profitability, may be enhanced.

(v) Rewarding individual responsibility over community engagement: An important neoliberal value is the idea that all human beings can succeed if only they try hard enough. Therefore, if you have not succeeded in society, this is largely your responsibility.

(vi) A flat world of equal opportunity: If markets are unrestricted, global flows of products, services and information allow enterprises to flourish anywhere and everywhere there are entrepreneurs willing to put their hard work and merit to use. This also means the best products, goods, and knowledge will emerge from such competition, a positive outcome for consumers everywhere.

In the maritime industry, the privatization and deregulation of port operations in most global ports including the Nigerian ports is an idea advocated in the theory of neoliberalism. Though available evidence support the fact that this has led to improved productivity, competition and sustained growth in the system, the overall impact of globalization as advocated for by neoliberalists on the maritime and port logistics sector in Nigeria need to be empirical investigated.

2.2.5: Theory of Constructivism

The theory of constructivism offers another approach for the explanation of globalization. Globalization is also believed to have arisen following patterns of that people have mentally constructed the social world with particular symbols, language, images and interpretation (Arrighi, 2005; Pieterse, 2004). It is the result of particular forms and dynamics of consciousness. Patterns of production and governance are second-order structures that derive from deeper cultural and socio-psychological forces. Such accounts of globalization have come from the fields of Anthropology, Humanities, Media of Studies and Sociology (Arrighi, 2005; Pieterse, 2004). The theory postulates that globalization developed from the patterns and ways that social actors 'construct' their world: both within their own minds and through inter-subjective communication with others (Arrighi, 2005). According to the constructivism argument, conversation and symbolic exchanges lead people to construct ideas of the world, the rules for social interaction, and ways of being and belonging in that world-globalization. They conceive of themselves as inhabitants of a particular global world. National, class, religious and other identities respond in part to material conditions but they also depend on inter-subjective construction and communication of shared self-understanding. However, when they go too far, they present a case of social-psychological reductionism ignoring the significance of economic and ecological forces in shaping mental experience. This theory neglects issues of structural inequalities and power hierarchies in social relations. It has a built-in apolitical tendency(Arrighi, 2005; Pieterse, 2004).

2.3 Empirical Review

Yevgeniy, Tim, Philip, and Marc (2015) in their study used primary data obtained from survey to determine the impact of economic globalization, political globalization and social globalization on overweight and obesity in low and middle income countries. The aim of the study is to provide robust quantitative evidence on the claim that globalization plays a major role in inducing overweight and obesity in developing countries. The study conducted extensive econometric analyses of several datasets, using a series of new proxies for different dimensions of globalization aforementioned; potentially affecting overweight in up to 887,000 women aged 15 and 49 living in 56 countries between 1991 and 2009. The study findings indicate that globalization as a whole is substantially and significantly associated with an increase in the individual propensity to be overweight among women. It shows that political and social globalization dominates the influence of the economic dimension (Yevgeniy, Tim, Philip, and Marc; 2015). The study recommended that more consideration needs to be given to the forms of governance required to shape a more health-oriented globalization process (Yevgeniy, Tim, Philip, and Marc, 2015).

In another study, Hyyeon-Seung and Cyn-Young (2019) sought to measure the impacts of global integration on economic growth and income inequality. The study developed two major objectives which include first, to develop a new composite index of globalization based on data on 158 economies over the period 2006–2014 and second, to use the new index to evaluate empirically the possible effects of globalization on economic growth and income inequality. The study used secondary data from each country comprised of 25 indicators that represent the key socioeconomic components of global integration. Principal component analysis is used to weight each component and construct an aggregate measure. Unlike previous composite indexes, this study separates the contributions of intraregional and extra regional integration in the construction of the globalization index. The result of the study

indicates that although globalization promotes economic growth, it also holds the potentials to worsen income inequality. The result also indicate that High income countries benefit most from globalization in that the positive effects of globalization on economic growth is strongest among high income countries than on low income groups, and they experience a less pronounced widening of income inequality (Hyyeon-Seung and Cyn-Young, 2019). The study further observed that between the two drivers of global economic integration, intraregional integration is far more important than extra-regional integration. The study also found that extra-regional integration is mainly responsible for the rise in income inequality that has accompanied globalization (Hyyeon-Seung and Cyn-Young, 2019).

Nwokah (2015) investigated the socio-economic impacts of globalization in Nigeria. The was aimed at assessing the socio-economic impact of globalization in Nigeria; and to compare the differences of these impacts in the public and private sectors in Nigeria. The study used a survey method employing primary data obtained from respondents randomly sampled from the various economic sectors of Nigeria using close-ended questionnaire to elicit information from 233 staff of the Nigerian private and public sectors. The data obtained were analyzed by the use of both descriptive and inferential statistics; descriptive statistics – mean and standard deviation. The independent sample t-test was also used to assess the differences in socio-economic impact of globalization as perceived by the Nigerian private and public sectors. It found that skill development, commitment to job and positive work attitude as the major areas that globalization has impacted socio-economic development in the Nigeria public and private sectors (Nwokah, 2015). The result of the study also shows that there is a significant difference in the socio-economic impacts of globalization in Nigeria private and public sector, with the private sector being most impacted than the public sector (Nwokah, 2015). The study concluded that globalization impacts significantly on private sector businesses in Nigeria more than it impacts on public sector operations (Nwokah, 2015)

Adesina (2012) in another study examined the negative impacts of globalization on Nigeria. The aim of the study was to investigate the negative effects of globalization on Nigeria, focusing majorly on its impact on science and technology and the environment. The paper argues that although globalization presents many opportunities, it also exposes developing countries like Nigeria to many new challenges. The study used exploratory approach and primary data obtained from survey. It found that while globalization has both positive and negative impacts on the world, including Nigeria. Its negative impacts are very weighty. It notes the importance of the need for Nigeria to preserve her culture, science and technology cum environment from the negative impacts of globalization. It concludes that rather than allow globalization to erode and diminish the development of local technology in Nigeria, the country should exploit the process of globalization to develop her local technology for export while preserving her environment for sustainable living (Adesina, 2012).

Ubam, and Wilcox (2017) did a review of the effects of globalization on Nigeria's economic development. The study set out to understand the disposition of the Nigerian political leaders in developing the political will to break away from depending on the International Capitalist system whose interest is to perpetuate the country's peripheral status. It notes the failure of Nigeria to achieve sustainable development after serial implementation of strategies aimed at achieving such. It blamed such woeful failures on globalization and vested interest of foreign countries in perpetually benefiting substantially from Nigeria more than Nigerian (Ubam, and Wilcox, 2017). The study observes that notwithstanding the negative influences of globalization, Nigeria still pursue globalization policies vigorously in keeping with the demands of the International Financial Institution of the World Bank and International Monetary Fund (IMF). In view of this, the study investigated the effects of globalization on Nigeria's economy especially within the democratic dispensation. The findings of the study indicate that globalization has led to positive improvement in the trends of political,

economic, social and technological development in Nigeria. It concludes that giving the drive towards a globally connected World and the becoming of a global village concept; the World is now deeply embedded in interdependency and Nigeria cannot afford to starve her economy of the impacts of globalization (Ubam, and Wilcox, 2017). It however advocated that it is a necessity for Nigeria to minimize the negative effects of globalization while exploring its benefits for national development and economic growth (Ubam, and Wilcox, 2017).

Popoola (2020) in similar but separate study on 'globalization and Nigeria's economic development- a study of the interconnectedness'; investigated the interrelationship between economic development and globalization in Nigeria. The study used exploratory research design method, primary data obtained through survey and secondary data on indices of economic development to investigate the relationship between economic development in Nigeria and globalization(Popoola, 2020).. The result of the study indicates that there is a significant relationship between globalization and economic development in Nigeria. It also reveals that increase in the rate of globalization in Nigeria is partly responsible for the increasing rate of unemployment in Nigeria. It thus concluded that globalization is discovered to be the root cause of massive youth unemployment and lack of opportunities for growth among the youths in Nigeria. The findings of the study corroborates the findings of Ubam and Wilcox (2017) that while the developed countries benefit massively from globalization, growing/undeveloped countries tend to benefit less (Popoola, 2020).

A similar study by Dappa and Thom-otuya (2010) examines globalization and its effects on third World Economic development with emphasis on Nigerian economy. The study used a mixed approach comprised of the use of both primary and secondary data to investigate the effects of globalization on third world countries using Nigeria as a case study. The study found that globalization induces unequal effects on nations, which has subsequently preponderantly distorted third world economic development. This has also led to the lack of

infrastructure in every sector of the Nigerian economy, poverty, accompanied with its consummate terminal diseases, poor agricultural sector output, poor funding of the educational sector as the upper class migrate their children and wards to foreign Universities and colleges that are better funded. It also found that globalization has led to huge gap between the income per capita in the developed and third world countries such that income per capita in Nigeria has been on the downward trend with no meaningful result from policy changes. Inflation, unemployment, armed banditry and other vices continue to be on the increase, thereby inhibiting foreign trade investment. Globalization is also found to have influenced cultural values among Nigerians as the inherent cultural and social values, constitute major barriers to desired corresponding result in earnings (Dappa and Thom-otuya; 2010).

Makinde (2013) appraised the effects of globalization on the Nigerian economy. The study employed the use of secondary data sourced from the Central Bank of Nigeria statistical bulletin and the National Bureau of Statistics between 1986 and 2011 using the Gross Domestic Product (GDP) to proxy the Nigerian economy as the dependent variables and the Foreign Direct Investment (FDI) into Nigeria cum Export and Import (foreign trade) data as the proxies for globalization are used as the explanatory variables. Using the Ordinary Least Square (OLS) multiple regression techniques as the analytical method; the study revealed that the there is a strong positive relationship between the Nigerian Gross Domestic Product (GDP) and foreign Direct Investment (FDI). This implies that the FDI has impacted on the Nigerian economy positively (Makinde, 2013). The findings of the study also shows that import has been growing over time though not at the pace of the GDP, whereas exports shows significantly declining trend over the period. It recommended that Government should concentrate efforts towards creating an enabling environment for more inflow of FDI into the

economy while the importation of products that are produced locally should be discouraged to enable export and local production to thrive (Makinde, 2013).

2.4 Research Gap

Though several empirical studies have been carried out to examine the impacts, influences and effects of globalization in Nigeria; most of the studies are concentrated on finding the political, social, cultural and behavioral impacts on globalizations on Nigeria. No empirical study seems to have attempted to investigate the effects of globalization on maritime trade. Few studies who tried to examine the economic impacts of globalization used primary data and the aggregated GDP.

Thus there is a huge knowledge and research gap such that there is a seeming lack of information backed by empirical evidence of what constitute the relationship between economic globalization and major indicator variables of maritime trade and port logistics in Nigeria such as the value of seaborne trade, Gross Domestic Product of the maritime transport sub-sector, port revenue generated, trend of ship turnaround time in Nigerian ports, trend of cargo dwell time in Nigeria and ship calls in Nigerian ports over the years.

CHAPTER THREE

METHODOLOGY

3.1 Description of the Study Area

The study area of the research is the Nigerian marine industry with emphasis on maritime trade and logistics flow and how globalization has influenced it over the years. The data gathered on the variables used to as proxies for maritime trade are strictly that of the Nigerian maritime sector while the KOF globalization index for trade and economic globalization used for the study are strictly that of the Nigerian state. Therefore study area covers the maritime subsector with specific interest in maritime export trade, shipping import trade, ship calls in Nigerian ports, port revenue, and GDP maritime transport, cargo dwell time in Nigerian ports, ship turnaround time in Nigerian ports and how trade and economic globalization has affected them over the years.

3.2 Research Design

The study used an ex-post factor research design in which time series (historical) data were obtained from secondary sources and used in the study. The secondary data were sourced from the various sources including the International Monetary Fund (IMF), the Central Bank of Nigeria (CBN) Annual Statistical report, and the Nigerian Ports Authority (NPA) Statistical Reports among other sources.

3.3 Sources of Data

The major sources of data used in the research were secondary sources .The researcher obtained secondary data from the IMF, the CBN and the NPA.

Data on the KOF globalization index for the Nigerian state was obtained from the International Monetary Fund (IMF). Data of the values of maritime trade (shipping import and export trade) handled via the seaports over the years were obtained from the Central Bank of Nigeria (CBN), while data on the ship calls to Nigerian ports, ship turnaround time

and cargo dwell time in Nigeria ports were obtained from the Nigerian ports Authority (NPA). Each data set gathered from the study covered a period of 15 years from 2005 to 2019.

3.4 Method of Data Analysis

3.4.1 Multiple Regression

This shows the relationship between one dependent variable (Y) and two or more independent variables (X_1, X_2 ---- X_n) which is expressed mathematically as

$Y_t = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \text{----} \beta_n X_n + e$ ---------- (1)

For t= number of observations.

Where e = random error term.

β_0 = Constant term; β_1; β_2; β_n = Coefficient of terms.

For such, ordinary least square (OLS) estimation method can be used to estimate the coefficients- β_0, and β_1, , etc., and normal hypotheses testing method using OLS holds valid. While β_1 measures the effect of the explanatory variable on the dependent variable. X_1= value of the variable in the period

Using the multiple regression model approach, the influence of economic globalization (trade globalization and financial globalization) on each of the identified proxies or variables of maritime logistics and trade in Nigeria will be estimated.

For example the following relationships will be estimated in line with the study objectives:

(i) the effects of economic globalization (KOFTrGldf, KOFTrGldj, KOFFiGIdf and KOFFiGIdj) on the value of Nigeria shipping export trade (EXP_{trade})

(ii) the relationship between economic globalization (KOFTrGldf, KOFTrGldj, KOFFiGIdf and KOFFiGIdj) and value of shipping import trade (IMP_{trade}) in Nigeria

(iii) relationship between globalization (KOFTrGIdf, KOFTrGIdj, KOFFiGIdf and KOFFiGIdj) and ship calls ($SHIP_{traffic}$)to Nigeria ports

(iv) the significances of the influence of globalization (KOFTrGldf, KOFTrGldj, KOFFiGIdf and KOFFiGIdj) on the Gross Domestic Product (GDP_{mrt})) of the maritime sub-sector in Nigeria

(v) the influences of economic globalization (KOFFiGIdf, KOFFiGIdj KOFTrGIdf and KOFTrGIdj) on ship turnaround time ($SHP_{turnroundtime}$) in Nigeria ports

(vi) the relationship between economic globalization (KOFFiGIdf , KOFFiGIdj, KOFTrGIdf and KOFTrGIdj) and cargo dwell time ($CARGO_{dwelltime}$)in Nigeria ports

(vii) the effects of economic globalization (KOFTrGIdf, KOFTrGIdj, KOFFiGIdf and KOFFiGIdj) on port revenue (POREV) in Nigeria

where:

(i) Trade globalization, de facto (KOFTrGIdf)
(ii) Trade globalization, de jure (KOFTrGIdj)
(iii) Financial globalization, de facto (KOFFiGIdf)
(iv) Financial globalization, de jure (KOFFiGIdj)

Having identified in line with the objectives of the study the relationships to be estimated and the associated variables of the study we specified the models of the study as shown below:

3.4.2 Model Specification

$$EXP_{trade} = \beta_0 + \beta_1 KOFFiGIdf + \beta_2 KOFFiGIdj + \beta_3 \text{KOFTrGIdf} + \beta_4 \text{KOFTrGIdj} + \mathcal{E} \text{ --------- (2)}$$

$$IMP_{trade} = \beta_0 + \beta_1 KOFFiGIdf + \beta_2 KOFFiGIdj + \beta_3 \text{KOFTrGIdf and } \beta_4 \text{KOFTrGIdj} + \mathcal{E} \text{ -------- (3)}$$

$$SHIPtraffic = \beta_0 + \beta_1 KOFTrGIdf + \beta_2 KOFTrGIdj + \beta_3 KOFFiGIdf + \beta_4 KOFFiGIdj + \mathcal{E} \text{ -------(4)}$$

$$GDP_{mrt} = \beta_0 + \beta_1 KOFFiGIdf + \beta_2 KOFFiGIdj + \beta_3 \text{KOFTrGIdf and } \beta_4 \text{KOFTrGIdj} + \mathcal{E} \text{ --------- (5)}$$

$$SHP_{turnroundtime} = \beta_0 + \beta_1 KOFTrGIdf + \beta_2 KOFTrGIdj + \beta_3 KOFFiGIdf + \beta_4 KOFFiGIdj + \mathcal{E} \text{ --- (6)}$$

$$CARGO_{dwelltime} = \beta_0 + \beta_1 KOFTrGIdf + \beta_2 KOFTrGIdj + \beta_3 KOFFiGIdf + \beta_4 KOFFiGIdj + \mathcal{E} \text{ --- (7)}$$

$$POREV = \beta_0 + \beta_1 KOFFiGIdf + \beta_2 KOFFiGIdj + \beta_3 \text{KOFTrGIdf and } \beta_4 \text{KOFTrGIdj } \mathcal{E} \text{ -------(8)}$$

Ordinary least square estimation can be used to estimate the effects of each economic globalization variable on the variables of maritime trade and logistics.

However, to ensure that all variables of the study assume the same unit of measurement, we took the natural log (In) of each set of data and used the Log-linear multiple regression analysis method to analyze the data obtained. The above models are re-expressed in log-linear regression model formats as shown below:

$$InEXP_{trade} = \beta_0 + \beta_1 InKOFFiGIdf + \beta_2 InKOFFiGIdj + \beta_3 ln\text{KOFTrGIdf} + \beta_4 \text{lnKOFTrGIdj} + \mathcal{E} \text{ --(10)}$$

$$InIMP_{trade} = \beta_0 + \beta_1 InKOFFiGIdf + \beta_2 InKOFFiGIdj + \beta_3 ln\text{KOFTrGIdf} + \beta_4 \text{lnKOFTrGIdj} + \mathcal{E} \text{ --(11)}$$

$$InSHIPtraffic = \beta_0 + \beta_1 InKOFTrGIdf + \beta_2 InKOFTrGIdj + \beta_3 InKOFFiGIdf + \beta_4 InKOFFiGIdj + \mathcal{E} \text{ --------(12)}$$

$$InGDP_{mrt} = \beta_0 + \beta_1 InKOFFiGIdf + \beta_2 InKOFFiGIdj + \beta_3 In\text{KOFTrGIdf} + \beta_4 In\text{KOFTrGIdj} + \mathcal{E} \text{ ------(13)}$$

$$InSHP_{turnroundtime} = \beta_0 + \beta_1 InKOFTrGIdf + \beta_2 InKOFTrGIdj + \beta_4 InKOFFiGIdf + \beta_2 InKOFFiGIdj + \mathcal{E} \text{ ---(14)}$$

$$\text{In}CARGO_{dwelltime} = \beta_0 + \beta_1 InKOFTrGIdf + \beta_2 InKOFTrGIdj + \beta_3 InKOFFiGIdf + \beta_4 InKOFFiGIdj + \mathcal{E} \text{ ---(15)}$$

$$\boldsymbol{InPOREV} = \boldsymbol{\beta_0} + \boldsymbol{\beta_1 In}KOFFiGIdf + \boldsymbol{\beta_2 In}KOFFiGIdj + \boldsymbol{\beta_3 In}\text{KOFTrGIdf} + \boldsymbol{\beta_4 In}\text{KOFTrGIdj} + \boldsymbol{\mathcal{E}} \text{ ----(16)}$$

Using the methods discussed above, the study analyzed the data obtained in order to provide answers to the research questions. They hypotheses were also tested using the t-test corresponding the log-linear multiple regression estimates of each of the above relationships.

CHAPTER FOUR

DATA PRESENTATION, RESULT AND DISCUSSION

This chapter presents the result of the study as also presented and findings of the study were discussed. The result of the test of hypotheses was also discussed in line with the study objectives.

4.1 Data Presentation

Under this section, the data collected from various sources and used for the research are presented as shown in the various tables below:

Table-4.1: Data on the KOF globalization index and KOF Financial Globalization index

s/n	Year	Trade globalization, de facto	Trade globalization, de jure	Financial globalization, de jure	Financial globalization, de facto
1	2005	46	49	28	60
2	2006	45	52	29	64
3	2007	47	57	30	65
4	2008	47	51	34	52
5	2009	47	52	38	51
6	2010	48	50	39	55
7	2011	48	50	40	55
8	2012	50	51	42	57
9	2013	52	51	41	57
10	2014	42	49	41	57
11	2015	42	49	41	58
12	2016	42	49	38	58
13	2017	42	52	38	58
14	2018	42	54	37	58
15	2019	42	51	37	59

Sources: (i) Central Bank of Nigeria Annual Statistical Bulletin, various editions. (ii) KOF Swiss Economic Institute.

Table-4.1 shows secondary data on the economic globalization index per annum over the period for Nigeria. The economic globalization index is sub-divided into Trade globalization, de facto (KOFTrGIdf), Trade globalization, de jure (KOFTrGIdj), Financial globalization, de jure (KOFFFiGIdj), and Financial globalization, de facto (KOFFiGIdf); and the values of

each KOF economic globalization index for Nigeria each year between 2005 and 2019 covering 15 years period was presented as shown on table-4.1. The table-2 above was used for further analysis and discussion of results in subsequent chapters.

Table-4.2: Data of value of seaborne import trade, seaborne export trade. ship turnaround-time, ship-traffic size, cargo dwell-time, port revenue, and GDP maritime transport as proxies for maritime and port logistics in Nigeria ports between 2005 and 2019

S/N	Year	Seaborne import trade (₦)000	Seaborne export trade(₦)000	Ship turnaround time (days)	Ship traffic	Cargo dwell time	Port Revenue ₦000,000	GDP_{mrt} ₦000,000,
1	2005	10,047,391,100	7,246,543,800	6.0	4,586	21	53,040	37,474.95
2	2006	10,433,200	7,324,680,600	6.6	4,800	20	58,200	39,995.50
3	2007	12,221,711,000	8,309,758,300	6.32	4,849	19	62,900	42,922.41
4	2008	15,351,292,700	10,161,490,100	4.82	4,623	18	73,030	46,012.52
5	2009	5,115,459,710	8,262,326,410	10.05	4,721	20	78,300	49,856.10
6	2010	7,614,656,230	11,662,462,540	7.85	4,881	23	101,050	54,612.26
7	2011	10,235,174,220	14,826,062,820	6.59	5,232	22	115,020	57,511.04
8	2012	9,084,454,730	14,735,977,760	6.17	4,837	21	136,010	59,929.89
9	2013	7,016,814,700	14,245,271,800	5.84	5,369	19	157,310	63,218.72
10	2014	7,037,000,000	16,030,000,000	4.24	5,333	20	172,800	67,152.79
11	2015	6,069,000,000	9,059,000,000	4.05	5,014	21	177,200	69,023.93
12	2016	8,082,000,000	8,053,000,000	3.9	4,373	19	182,420	67,931.24
13	2017	9,056,000,000	13,059,000,000	5.26	4,292	23	265,600	68,490.98
14	2018	13,017,000,000	18,053,000,000	4.30	4,009	21	270,560	69,799.94
15	2019	16,096,000,000	19,019,000,000	4.30	4225	24	277,680	68740.72

Source: Nigeria Ports Authority (NPA) Statistical Report, various editions.

The table-4.2 shows the value of maritime trade (seaborne import ($\boldsymbol{IMP_{trade}}$) and export ($\boldsymbol{EXP_{trade}}$) trades) per annum handled in the maritime logistics and port sector between 2005 and 2019. It also shows the ship traffic size handled in all Nigerian ports, the ship turnaround time in Nigeria ports, the cargo dwell time prevailing in Nigeria ports, port revenue generated by Nigerian ports, and the GDP maritime transport as variables of maritime and port logistics each year between 2005 and 2019. Table.4.2 was further analyzed in subsequent sections and the results and findings were discussed.

4.2 Results and Discussion

In this section, the results of the study were presented and discussed. Each of the objectives of the study was treated by the use of the analytical methods discussed in chapter three while the results are presented and discussed as shown in the subsequent tables below.

Table-4.3: Descriptive Statistics showing the values of maritime trade and economic globalization variables for Nigeria between 2005 and 2019

	N	Range	Minimum	Maximum	Sum
	Statistic	Statistic	Statistic	Statistic	Statistic
IMPTREADE	15	16085566800.00	10433200.00	16096000000.00	136054387590.00
EXPTRADE	15	11772456200.00	7246543800.00	19019000000.00	180047574130.00
KOFTRGDF	15	10.00	42.00	52.00	682.00
KOFTRGDJ	15	8.00	49.00	57.00	767.00
KOFFGDJ	15	14.00	28.00	42.00	553.00
KOFFGDF	15	14.00	51.00	65.00	864.00
Valid N (listwise)	15				

Descriptive Statistics

	Mean		Std. Deviation
	Statistic	Std. Error	Statistic
IMPTREADE	9070292506.0000	1057417568.70135	4095360633.56747
EXPTRADE	12003171608.6667	1031746637.71497	3995937545.37559
KOFTRGIDF	45.4667	.86115	3.33524
KOFTRGIDJ	51.1333	.55948	2.16685
KOFFGIDJ	36.8667	1.17865	4.56488
KOFFGIDF	57.6000	.96016	3.71868
Valid N (listwise)			

Source: Authors calculation

Table-4.3 above shows that the mean values of economic globalization index for Nigeria measured by the KOF trade globalization de facto (KOFTRGIDF), trade globalization de jure (KOFTRGIDJ), financial globalization de facto (KOFFGIDF) and financial globalization de jure (KOFFGIDJ) for Nigeria between 2005 and 2019 is 45.4667, 51.1333, 57.6000, and 36.8667 for trade globalization de facto, trade globalization de jure, financial globalization de facto, and financial globalization de jure respectively with respective standard

deviations of 0.86115, 0.55948, 0.96016 and 1.17865. By implication, KOF financial globalization de facto, which measures the level of foreign direct investment, Portfolio investment, international equity portfolio investments and International income payments has the highest mean score per annum between 2005 and 2019 of 57.600 among the four variables of economic globalization. This is seconded by KOF trade globalization de jure with mean score of 51.1333.

Similarly, the mean value of maritime trade comprised of shipping import and export trades handled per annum over the same period between 2005 and 2019 is 9070292506.0 Trillion naira and 12003171608.6 Trillion naira respectively for shipping import trade and export trade with respective standard deviations of 4095360633.56747 and 3995937545.37559. The range indicates the differences between the maximum and minimum values of each of the proxies used to identify maritime trade and economic globalization.

Table-4.4: Descriptive statistics of the selected proxies for maritime trade and port logistics in Nigeria

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
SHITRAFFIC	15	4009.00	5369.00	71144.00	4742.9333	403.71639
TURNROUNDTIME	15	3.90	10.05	86.29	5.7527	1.66481
POREV	15	53400.00	277680.00	2181030.00	145402.0000	78624.36901
GDPMARITIME	15	37474.95	69799.94	862672.99	57511.5327	11620.44077
DWELLTIME	15	18.00	24.00	311.00	20.7333	1.70992
Valid N (listwise)	15					

Source: Authors calculation

The result shows that the average number of ship calls to the Nigerian ports per annum over the period between 2005 and 2019 covered in the study in 4742.9333 with standard deviation of 403.7164. The result also indicates that given the trend of economic globalization in

Nigeria, the average values ship turnaround time and cargo dwell time in Nigerian ports per annum between 2005 and 2019 is 5.75 days and 20.73 days respectively with respective standard deviations of 1.665 and 1.7099.

Similarly, average revenue generated by the ports and the Gross Domestic Product representing the output of the maritime transport and port logistics sub-sector per annum over the period is 145402.0 Billion naira and 57511.53 Billion naira respectively with respective standard deviations of 78624.36901and 11620.44077.

Table-4.5: The effects of economic globalization on the value of Nigeria shipping export trade

	Mean	Std. Deviation	N
$InEXP_{trade}$	23.1560	.33641	15
InKOFTRGlDf	3.8145	.07277	15
InKOFTRGlDj	3.9336	.04132	15
InKOFFGlDj	3.5995	.13225	15
InKOFFGlDf	4.0516	.06434	15

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.820[a]	.678	.580	.29269	1.323

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.728	4	.182	6.181	.041[b]
	Residual	.857	10	.086		
	Total	1.584	14			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
		B	Std. Error	Beta			Zero-order
1	(Constant)	7.484	11.618		.644	.534	
	InKOFTRGDF	-.428	1.137	-.093	-.377	.714	-.073
	InKOFTRGDJ	2.046	2.124	.251	.964	.358	.004
	InKOFFGDJ	1.950	.727	.767	2.683	.023	.617
	InKOFFGDF	.552	1.567	.106	.352	.732	-.204

a. Dependent Variable: InEXTRADE

Source: Author's calculation

The coefficient of correlation R which measures the degree of correlation between the shipping export trade and economic globalization in Nigeria is 0.82. This implies the existence of about 82% correlation between Nigeria's shipping export trade and economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure.

The model showing the relationship depicting the influence of economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure on Nigeria's value of shipping export trade between 2005 and 2019 is:

$$InEXP_{trade} = 7.484 - 0.428InKOFTRGlDf + 2.046InKOFTRGlDj + 1.95InKOFFGlDj + 0.552InKOFFGlDf + e$$

This implies that a unit annual increase in KOF trade globalization de facto, such as trade in goods, trade in services and trade partner diversity decreases value of Nigeria's maritime trade- value of shipping export by 0.428 units. The indication is that diversifying trade with numerous trade partners causes a decline in the value of Nigeria's export earnings. A unit increase in KOF trade globalization de jure causes a 2.046 units increase in the value of shipping export trade by Nigeria. This implies that KOF trade globalization de jure such as the prevalence of non-tariff trade barriers and compliance costs in exporting causes increase in Nigeria's shipping export trade earnings over the years covered in the study.

Similarly, a unit annual increase in KOF financial globalization index de jure causes an increase of about 1.95 units in shipping export earnings in Nigeria while a unit increase in KOF financial globalization index de facto such as a foreign direct investment inflow into Nigeria induces a 0.552units increase in Nigeria's shipping export trade earnings between

2005 and 2019.

The coefficient of determination r^2 which measures the explanatory power of the model is 0.678. This indicates that only about 68% variation in the value of Nigeria's shipping export trade earnings is explained by economic globalization.

Table-4.6: The Relationship between economic globalization on the value of Nigeria shipping import trade in Nigeria

	Mean	Std. Deviation	N
$InIMP_{trade}$	22.4909	1.78180	15
InKOFTRGlDf	3.8145	.07277	15
InKOFTRGlDj	3.9336	.04132	15
InKOFFGlDj	3.5995	.13225	15
InKOFFGlDf	4.0516	.06434	15

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.754[a]	.569	-.461	1.83511	2.917

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.771	4	2.693	5.800	.052[b]
	Residual	33.676	10	3.368		
	Total	44.447	14			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
		B	Std. Error	Beta			Zero-order
1	(Constant)	23.396	72.839		.321	.755	
	InKOFTRGlDf	-2.388	7.129	-.098	-.335	.745	.007
	InKOFTRGlDj	8.279	13.316	.192	.622	.548	-.048
	InKOFFGlDj	3.838	4.557	.285	.842	.419	.402
	InKOFFGlDf	-9.423	9.822	-.340	-.959	.360	-.404

a. Dependent Variable: InIMTRADE

Source: Authors calculation

The coefficient of correlation R which measures the degree of correlation between the value of maritime trade- value of shipping import trade and economic globalization in Nigeria is 0.75. This implies the existence of about 75% correlation between Nigeria's shipping import trade value between 2005 and 2019, and economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure.

The model showing the relationship depicting the influence of economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure on Nigeria's value of shipping import trade between 2005 and 2019 is:

$$InIMP_{trade} = 23.396 - 2.388InKOFTRGlDf + 8.279InKOFTRGlDj + 3.838InKOFFGlDj - 9.423InKOFFGlDf + e$$

This implies that a unit annual increase in KOF trade globalization de facto, such as trade in goods, trade in services decreases value of Nigeria's maritime trade- value of shipping import by 2.388 units. The indication is that the value of seaborne import trade in Nigeria between 2005 and 2019 decreased by 2.388units for every 1 unit increase in KOF trade globalization index de facto. A unit increase in KOF trade globalization de jure causes about 8.279 units increase in the value of shipping import trade by Nigeria. This implies that KOF trade globalization de jure such as the prevalence of non-tariff trade barriers and compliance costs in importing causes increase in Nigeria's shipping import trade earnings over the years covered in the study.

Similarly, a unit annual increase in KOF financial globalization index de jure causes an increase of about 3.838units in the value of shipping import in Nigeria while a unit increase in KOF financial globalization index de facto such as a foreign direct investment inflow into

Nigeria induces a 9.423units decrease in the value of Nigeria's shipping import trade between 2005 and 2019.

The coefficient of determination r^2 which measures the explanatory power of the model is 0.569. This indicates that about 57% variation in the value of Nigeria's shipping import trade is explained by economic globalization.

Table-4.7: The Relationship between economic globalization on the ship calls to Nigeria ports

Descriptive Statistics

	Mean	Std. Deviation	N
InSHItraffic	8.4578	.09058	15
InKOFTRGDF	3.8145	.07277	15
InKOFTRGDJ	3.9336	.04132	15
InKOFFGDJ	3.5995	.13225	15
InKOFFGDF	4.0516	.06434	15

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.715[a]	.511	.316	.07493	1.417

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.059	4	.015	2.615	.099[b]
	Residual	.056	10	.006		
	Total	.115	14			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
		B	Std. Error	Beta			Zero-order
1	(Constant)	5.966	2.974		2.006	.073	
	InKOFTRGDF	.841	.291	.676	2.889	.016	.556
	InKOFTRGDJ	-.852	.544	-.389	-1.567	.148	-.277
	InKOFFGDJ	.185	.186	.270	.995	.343	.231
	InKOFFGDF	.486	.401	.345	1.212	.253	-.100

a. Dependent Variable: InSHItraffic

Source: Authors calculation

Table-4.7 above shows the result of the estimates of the relationship between economic globalization and ship calls in Nigerian ports. It indicates that the coefficient of correlation R which measures the degree of correlation between the ship calls to Nigerian ports and economic globalization in Nigeria is 0.715. This implies the existence of about 72% correlation between ship call rates per annum to Nigerian seaports and economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure.

The equation of the relationship depicting the influence of economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure on ship calls to Nigerian seaports between 2005 and 2019 is:

$$InSHIP_{traffic} = 5.966 + 0.841InKOFTRGlDf - 0.852InKOFTRGlDj + 0.185InKOFFGlDj + 0.486InKOFFGlDf + e$$

This implies that a unit annual increase in KOF trade globalization de facto, such as trade in goods, trade in services leads to increase in ship calls in Nigerian ports by 0.841 units. The indication is that the ship calls to seaports in Nigeria between 2005 and 2019 decreased by 0.841 units for every 1unit increase in KOF trade globalization index de facto. A unit increase in KOF trade globalization de jure causes about 0.852 units decrease in ship calls to Nigeria seaports.

Similarly, a unit annual increase in KOF financial globalization index de jure causes an increase of about 0.185 units in the rate of ship calls to Nigerian ports while a unit increase in KOF financial globalization index de facto such as a foreign direct investment inflow into Nigeria induces a 0.486 units increase in ship calls to Nigerian ports 2005 and 2019.

The coefficient of determination r^2 which measures the explanatory power of the model is 0.511. This indicates that about 51% variation in the ship calls to Nigerian ports is explained by economic globalization.

Table-4.8: The influence of globalization on the Gross Domestic Product (GDP) of the maritime sub-sector in Nigeria

	Mean	Std. Deviation	N
InGDmaritime	10.9387	.21757	15
InKOFTRGDF	3.8145	.07277	15
InKOFTRGDJ	3.9336	.04132	15
InKOFFGDJ	3.5995	.13225	15
InKOFFGDF	4.0516	.06434	15

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.964[a]	.929	.901	.06839	1.950

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.616	4	.154	32.920	.000[b]
	Residual	.047	10	.005		
	Total	.663	14			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
		B	Std. Error	Beta			Zero-order
1	(Constant)	5.016	2.715		1.848	.094	
	InKOFTRGDF	-1.212	.266	-.405	-4.560	.001	-.421
	InKOFTRGDJ	.503	.496	.095	1.013	.335	-.233
	InKOFFGDJ	1.623	.170	.987	9.557	.000	.836
	InKOFFGDF	.672	.366	.199	1.837	.096	-.219

a. Dependent Variable: InGDmaritime

Source: Authors calculation

Table-4.8 above shows the result of the estimates of the influence of economic globalization on the output. It indicates that the coefficient of correlation R which measures the degree of correlation between the Gross Domestic Product (GDP) of the maritime transport sub-sector and economic globalization in Nigeria is 0.964. This implies that there is about 96% correlation between GDP maritime transport sub-sector in Nigeria and economic globalization measured by the KOF economic globalization index- trade globalization de

facto, trade globalization de jure, financial globalization de facto and financial globalization de jure.

The equation of the relationship depicting the influence of economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure on the GDP maritime transport is:

$$InGDP_{maritime} = 5.016 - 1.21InKOFTRGlDf + 0.503InKOFTRGlDj + 1.623InKOFFGlDj + 0.672InKOFFGlDf + e$$

This implies that a unit annual increase in KOF trade globalization de facto, such as trade in goods, trade in services leads to decrease in the GDP contribution of the maritime transport sub-sector by 1.21 units. A unit increase in KOF trade globalization de jure causes about 0.503 units increase in the output of the maritime transport sub-sector measured by the GDP maritime transport.

Similarly, a unit annual increase in KOF financial globalization index de jure causes an increase of about 1.62 units in the GDP contribution of the maritime transport sub-sector while a unit increase in KOF financial globalization index de facto such as a foreign direct investment inflow into Nigeria induces a 0.67 units increase in the GDP contribution of the maritime transport sub-sector.

The coefficient of determination r^2 which measures the explanatory power of the model is 0.926. This indicates that about 93% variation in the Gross Domestic Product (GDP) contribution of the maritime transport sub-sector is explained by economic globalization.

Table-4.9: The influence of globalization on the trend of ship-turnaround time in Nigeria ports

	Mean	Std. Deviation	N
$InSHP_{turnroundtime}$	1.7143	.26970	15
InKOFTRGlDf	3.8145	.07277	15
InKOFTRGlDj	3.9336	.04132	15
InKOFFGlDj	3.5995	.13225	15
InKOFFGiDf	4.0516	.06434	15

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.744[a]	.554	.375	.21321	2.240

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.564	4	.141	3.100	.067[b]
	Residual	.455	10	.045		
	Total	1.018	14			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
		B	Std. Error	Beta			Zero-order
1	(Constant)	-3.412	8.463		-.403	.695	
	InKOFTRGlDf	2.114	.828	.570	2.552	.029	.664
	InKOFTRGlDj	1.262	1.547	.193	.815	.434	.242
	InKOFFGlDj	-.602	.529	-.295	-1.136	.282	-.168
	InKOFFGlDf	-1.415	1.141	-.338	-1.240	.243	-.232

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.4181	1.9734	1.7143	.20066	15
Residual	-.40065	.34908	.00000	.18020	15
Std. Predicted Value	-1.477	1.291	.000	1.000	15
Std. Residual	-1.879	1.637	.000	.845	15

a. Dependent Variable: $InSHIP_{turnroundtime}$

Source: author's calculation

Table-4.9 above shows the result of the estimates of the influence of economic globalization on the trend of ship turnaround time in Nigerian seaports. It indicates that the coefficient of correlation R which measures the degree of correlation between ship turnaround time in Nigerian ports and economic globalization in Nigeria is 0.744. This implies that there is about 75% correlation between the trend of ship turnaround time in Nigerian ports and economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure.

The equation of the relationship depicting the influence of economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure on the trend of ship turnaround time in Nigeria ports is:

$$InSHIP_{trruaroundtime} = -3.412 + 2.114InKOFTRGlDf + 1.262InKOFTRGlDj - 0.602InKOFFGlDj - 1.415InKOFFGlDf + e$$

This implies that a unit annual increase in KOF trade globalization de facto, such as trade in goods, trade in services leads to increase in the trend of ship turnaround time in Nigerian ports by 2.114 units. A unit increase in KOF trade globalization de jure causes about 1.262 units increase in the ship turnaround time in Nigerian seaports.

Similarly, a unit annual increase in KOF financial globalization index de jure causes a decrease of about 0.602 units in the ship turnaround time in Nigerian ports while a unit increase in KOF financial globalization index de facto such as a foreign direct investment inflow into Nigeria induces a 1.415 units decrease in the ship turnaround time in Nigeria ports. The coefficient of determination r^2 which measures the explanatory power of the model is 0.554. This indicates that about 55% variation in the trend of ship turnaround time in Nigerian ports is explained by economic globalization.

Table-4.10: The relationship between economic globalization and cargo dwell time in Nigeria ports

	Mean	Std. Deviation	N
$InDWELL_{time}$	3.0286	.08181	15
InKOFTRGlDf	3.8145	.07277	15
InKOFTRGlDj	3.9336	.04132	15
InKOFFGlDj	3.5995	.13225	15
InKOFFGlDf	4.0516	.06434	15

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.385[a]	.148	-.193	.08935	1.407

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.014	4	.003	.434	.781[b]
	Residual	.080	10	.008		
	Total	.094	14			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
		B	Std. Error	Beta			Zero-order
1	(Constant)	3.082	3.546		.869	.405	
	InKOFTRGlDf	-.245	.347	-.218	-.706	.496	-.265
	InKOFTRGlDj	-.187	.648	-.095	-.289	.779	-.161
	InKOFFGlDj	.186	.222	.301	.839	.421	.230
	InKOFFGlDf	.234	.478	.184	.489	.635	.032

a. Dependent Variable: *$InDWELL_{time}$*

Source: author's calculation

Table-11 above shows the result of the estimates of the relationship between economic globalization on the trend of cargo dwell time prevailing in Nigerian seaports. It indicates that the coefficient of correlation R which measures the degree of correlation between ship turnaround time in Nigerian ports and economic globalization in Nigeria is 0.385. This implies that there is very poor/weak positive correlation between the trend of cargo dwell time in Nigerian ports and economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure.

The equation of the relationship depicting the influence of economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure on the trend of cargo dwell time in Nigerian ports is:

$$InCARGO_{dwell\text{-}time} = 3.082 - 0.245InKOFTRGlDf - 0.187InKOFTRGlDj + 0.186InKOFFGlDj + 0.234InKOFFGlDf + e$$

This implies that a unit annual increase in KOF trade globalization de facto, such as trade in goods, trade in services leads to decrease in the trend of cargo dwell time in Nigerian ports by 0.245 units. A unit increase in KOF trade globalization de jure causes about 0.1872 units decrease in the cargo dwell time in Nigerian seaports.

Similarly, a unit annual increase in KOF financial globalization index de jure causes an increase of about 0.186 units in the cargo dwell time in Nigerian ports while a unit increase in KOF financial globalization index de facto such as a foreign direct investment inflow into Nigeria induces a 0.234units increase in the cargo dwell time in Nigerian ports.

The coefficient of determination r^2 which measures the explanatory power of the model is 0.148. This indicates that only about 15% variation in the trend of cargo dwell time in Nigerian ports is explained by economic globalization. The implication is that the port authorities have not implemented adequate maritime logistics measures to achieve significant reduction in cargo dwell time in the ports.

Table-4.11: The relationship between economic globalization and port revenue in Nigeria ports

	Mean	Std. Deviation	N
InPOREV	9.4395	3.86996	15
InKOFTRGDF	3.8145	.07277	15
InKOFTRGDJ	3.9336	.04132	15
InKOFFGDJ	3.5995	.13225	15
InKOFFGDF	4.0516	.06434	15

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.923[a]	.852	.793	1.75953	1.600

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	178.713	4	44.678	14.431	.000[b]
	Residual	30.959	10	3.096		
	Total	209.673	14			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-128.319	69.839		-1.837	.096
	InKOFTRGlDf	-9.574	6.835	-.180	-1.401	.192
	InKOFTRGlDj	-10.290	12.767	-.110	-.806	.439
	InKOFFGlDj	29.690	4.369	1.015	6.795	.000
	InKOFFGlDf	26.627	9.417	.443	2.828	.018

a. Dependent Variable: *InPOREV*

Source: author's calculation

Table-4.11 above shows the result of the estimates of the relationship between economic globalization on the port revenue generated in Nigerian ports. It indicates that the coefficient of correlation R which measures the degree of correlation between port revenue in Nigerian ports and economic globalization in Nigeria is 0.923. This implies that there is very high positive correlation between port revenue and economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure.

The equation of the relationship depicting the influence of economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure on the revenue generated in Nigerian ports is:

InPOREV = -128.319 -9.574InKOFTRGlDf - 10.290InKOFTRGlDj + 29.690InKOFFGlDj + 26.627InKOFFGlDf + e

This implies that a unit annual increase in KOF trade globalization de facto, such as trade in goods, trade in services leads to decrease in port revenue in Nigerian ports by 9.574 units. A unit increase in KOF trade globalization de jure causes about 10.290 units decrease in the revenue generated in Nigerian seaports.

Similarly, a unit annual increase in KOF financial globalization index de jure causes an increase of about 29.690 units in port revenue in Nigerian ports while a unit increase in KOF financial globalization index de facto such as a foreign direct investment inflow into Nigeria induces a 26.627 units increase in the revenue generated in the ports in Nigeria.

The coefficient of determination r^2 which measures the explanatory power of the model is 0.852. This indicates that about 85% variation in the volume of revenue generated in the ports in Nigeria ports is explained by economic globalization.

4.3 Test of Hypotheses

In this section, the research hypotheses were tested using F-statistics (F-test). However, the significances of the individual effects of the KOF trade globalization index de facto, trade globalization index de jure, financial globalization index de facto and financial globalization index de jure on each of the dependent variables were all tested using the t-test.

Table-4.12: Test of H_{01}: There is no significant effect of economic globalization on the value of shipping export trade in Nigeria

Hypotheses	**F-cal.**	**F-critical**	**p-value/sig.**	**Decision**
H_{01}	**6.181**	3.68	0.041[b]	Reject ***H_{01}***
Variable	**t-cal.**	**t-critical**	**p-value/sig.**	**Decision**
InKOFTRGlDf	-0.377	1.75	0.714	Not significant
InKOFTRGlDj	0.964	1.75	0.358	Not significant
InKOFFGlDj	2.683	1.75	0.023	significant
InKOFFGlDf	0.352	1.75	0.732	Not significant

Source: Authors calculation. Reject *null hypotheses if F-cal > f-critical; Reject null hypotheses if F-cal.< F-critical*

The test of hypothesis H_{01} shown in table-4.12 shows F-score of 6.181, F-critical of 3.68, and p-value of 0.041. Since F-score is greater than F-critical, (6.181> 3.68), The null hypothesis H_{01} was rejected and the alternate hypothesis was accepted. The study concluded that there is significant effect of economic globalization on the value of shipping export trade in Nigeria between 2005 and 2019.

Similarly, t-test was conducted to investigate the significance of the individual effects of trade globalization index de facto, trade globalization index de jure, financial globalization index de fact and financial globalization index de jure on the value of shipping export trade in Nigeria over the 15 years covered in the study. As shown in the table above, only KOF financial globalization index de jure has t-cal score greater than t-critical (2.63> 1.75). Thus only KOF financial globalization index de jure has significant effect of the value of shipping export trade in Nigeria between 2005 and 2019. KOF trade globalization index de factor, KOF trade globalization index de jure and KOF financial globalization index de facto all have t-cal. less than t-critical (i.e.: 0.377<1.75; 0.964<1.75 and 0.352<1.75)

Table-4.13: Test of H_{02}: There is no significant relationship between economic globalization and value of shipping import trade in Nigeria.

Hypotheses	F-cal.	F-critical	p-value/sig.	Decision
H_{01}	**5.800**	3.68	.052[b]	Reject H_{02}
Variable	**t-cal.**	**t-critical**		**Decision**
InKOFTRGlDf	-0.335	1.75	.745	Not significant
InKOFTRGlDj	0.622	1.75	.548	Not significant
InKOFFGlDj	0.842	1.75	.419	Not significant
InKOFFGlDf	-0.959	1.75	.360	Not significant

Source: Authors calculation. Reject null hypotheses if F-cal. > f-critical; Reject null hypotheses if F-cal.< F-critical

The test of hypothesis H_{02} shown in table4.13 shows F-score of 5.800, F-critical of 3.68, and p-value of 0.052. Since F-score is greater than F-critical, (5.800 > 3.68). The null hypothesis H_{02} was rejected and the alternate hypothesis accepted. The study concluded that there is significant effect of economic globalization on the value of shipping import trade in Nigeria between 2005 and 2019.

Similarly, t-test was conducted to investigate the significance of the individual effects of trade globalization index de facto, trade globalization index de jure, financial globalization index de fact and financial globalization index de jure on the value of shipping import trade in Nigeria over the 15 years covered in the study. The KOF financial globalization index de jure, KOF trade globalization index de factor, KOF trade globalization index de jure and KOF financial globalization index de facto all have t-cal. less than t-critical (i.e.: 0.335<1.75; 0.662<1.75, 0.842< 1.75 and -0.959<1.75). The study concluded that, none of the individual KOF economic globalization index has significant effect on the value of shipping import trade in Nigeria between 2005 and 2019.

Table-4.14: Test of H_{03}: The relationship between trade globalization of ship calls to Nigeria ports is not significant.

Hypotheses	**F-cal.**	**F-critical**	**p-value/sig.**	**Decision**
H_{03}	**2.615**	3.68	.099[b]	Accept ***H_{03}***
Variable	**t-cal.**	**t-critical**	**p-value/sig.**	**Decision**
InKOFTRGlDf	2.889	1.75	.016	Significant
InKOFTRGlDj	-1.567	1.75	.148	Not significant
InKOFFGlDj	.995	1.75	.343	Not significant
InKOFFGlDf	1.212	1.75	.253	Not significant

Source: Authors calculation. Reject null hypotheses if F-cal. > f-critical; Accept null hypotheses if F-cal.< F-critical

The test of hypothesis H_{03} shown in table-4.14 shows F-score of 2.615, F-critical of 3.68, and p-value of 0.099. Since F-score is less than F-critical, (2.615 < 3.68). The null hypothesis H_{03} was rejected and the alternate hypothesis accepted. The study concludes that there is no significant effect of economic globalization on ship calls in in Nigeria between 2005 and 2019.

Similarly, t-test was conducted to investigate the significance of the individual effects of trade globalization index de facto, trade globalization index de jure, financial globalization index de fact and financial globalization index de jure on the trend of ship calls in Nigeria ports in Nigeria over the 15 years covered in the study. The result shows that only KOF trade globalization index de facto with t-cal. of 2.889 and t-critical of 1.75 and p-value of 0.016 have significant influence on ship calls to Nigerian ports. This is because the t-cal is greater than t-critical (2.889>1.75).

The KOF financial globalization index de jure, KOF trade globalization index de jure and KOF financial globalization index de facto all have t-cal. less than t-critical (i.e.: 1.567<.75; 0.995<1.75; and 1.212<1.75).

Table-4.15: Test of H_{04}: There is no significant influence of globalization on the Gross Domestic Product (GDP) of the maritime sub-sector in Nigeria

Hypotheses	F-cal.	F-critical	p-value/sig.	Decision
H_{04}	**32.920**	3.68	.000[b]	Reject H_{04}
Variable	**t-cal.**	**t-critical**	**p-value/sig.**	**Decision**
InKOFTRGlDf	-4.560	1.75	.001	significant
InKOFTRGlDj	1.013	1.75	.335	Not significant
InKOFFGlDj	9.557	1.75	.000	significant
InKOFFGlDf	1.837	1.75	.096	significant

Source: Authors calculation. Reject *null hypotheses if F-cal > f-critical; Reject null hypotheses if F-cal.< F-critical*

The test of hypothesis H_{03} shown in table-4.15 shows F-score of 32.920, F-critical of 3.68, and p-value of 0.000. Since F-score is greater than F-critical, (32.920> 3.68); the null hypothesis H_{04} was thus rejected. The study concludes that there is significant effect of economic globalization on Gross Domestic Product (GDP) contribution of the maritime transport sector in Nigeria between 2005 and 2019.

Similarly, t-test was conducted to investigate the significance of the individual effects of trade globalization index de facto, trade globalization index de jure, financial globalization index de fact and financial globalization index de jure on the GDP maritime transport. in Nigeria over the 15 years covered in the study. The result shows that only KOF trade globalization index de jure with t-cal. of 1.013 and t-critical of 1.75 and p-value of 0.331 have no significant influence on the GDP maritime transport. This is because 1.013<1.75.

The KOF financial globalization index de facto, KOF trade globalization index de facto and KOF financial globalization index de jure all have t-cal. greater than t-critical (i.e.: 4.560>1.75; 9.557>1.75; and 1.837>1.75). The KOF financial globalization index de facto, KOF trade globalization index de facto and KOF financial globalization index de jure all have significant effects on the Gross Domestic Product (GDP) contribution of the maritime sub-sector in Nigeria.

Table-4.16: Test of H_{05}: There is the no significant influence of economic globalization on trend of ship turnaround time in Nigeria ports

Hypotheses	F-cal.	F-critical	p-value/sig.	Decision
H_{05}	**3.100**	3.68	0.067	Accept H_{05}
Variable	**t-cal.**	**t-critical**	**p-value/sig.**	**Decision**
InKOFTRGlDf	2.552	1.75	.029	Reject H_{02}
InKOFTRGlDj	.815	1.75	.434	Reject H_{03}
InKOFFGlDj	-1.136	1.75	.282	
InKOFFGlDf	-1.240	1.75	.243	

Source: Authors calculation. Reject *null hypotheses if F-cal > f-critical; Accept null hypotheses if F-cal. < F-critical*

The test of hypothesis H_{05} shown in table-4.16 shows F-score of 0.434, F-critical of 3.68, and p-value of 0.067. Since F-score is less than F-critical, (3.100<3.68); the null hypothesis H_{05} was accepted. The study concludes that there no significant effect of economic globalization on ship turnaround time in Nigeria between 2005 and 2019

Similarly, t-test was conducted to investigate the significance of the individual effects of trade globalization index de facto, trade globalization index de jure, financial globalization index de fact and financial globalization index de jure on the trend of ship turnaround time in Nigerian ports over the 15 years covered in the study. The result shows that only KOF trade globalization index de facto with t-cal. of 2.552 and t-critical of 1.75 and p-value of 0.029 have significant influence on the trend of ship turnaround time in Nigerian ports. This is because 2.552>1.75.

The KOF financial globalization index de facto, KOF trade globalization index de jure and KOF financial globalization index de jure all have t-cal. less than the t-critical (i.e.: 0.815<1.75; 1.136<1.75; and 1.240<1.75). The KOF financial globalization index de facto, KOF trade globalization index de facto and KOF financial globalization index de jure all have no significant effects on the trend of ship turnaround time in the ports over the period covered in the study.

Table-4.17: Test of H_{06}: Is there significant relationship between globalization and trend of cargo dwell time in Nigeria ports

Hypotheses	F-cal.	F-critical	p-value/sig.	Decision
H_{06}	**0.434**	3.68	.781[b]	Reject H_{06}
Variable	**t-cal.**	**t-critical**	**p-value/sig.**	**Decision**
lnKOFTRGlDf	-0.706	1.75	0.496	Reject H_{02}
lnKOFTRGlDj	-0.289	1.75	0.779	Reject H_{03}
lnKOFFGlDj	0.839	1.75	0.421	
lnKOFFGlDf	0.489	1.75	0.635	

Source: Authors calculation. Reject *null hypotheses if F-cal > f-critical; Reject null hypotheses if F-cal.< F-critical*

The test of hypothesis H_{06} shown in table 4.17 shows F-score of 0.434, F-critical of 3.68, and p-value of 0.781. Since F-score is less than F-critical, (0.434<3.68); the null hypothesis H_{06} was accepted .The study concludes that there no significant effect of economic globalization on cargo dwell time in Nigeria between 2005 and 2019.

Similarly, t-test was conducted to investigate the significance of the individual effects of trade globalization index de facto, trade globalization index de jure, financial globalization index de fact and financial globalization index de jure on the trend of cargo dwell time in Nigerian ports over the 15 years covered in the study. The result shows that none of KOF trade globalization index de facto, KOF financial globalization index de facto, KOF trade globalization index de jure and KOF financial globalization index de jure have t-cal. greater than 1.75 (i.e.: 0.706<1.75; 0.289<1.75; 0.839<1.75; and 0.489<1.75).

Table-4.18: Test of H_{07}: There is no significant effect of globalization on port revenue in Nigeria

Hypotheses	F-cal.	F-critical	p-value/sig.	Decision
H_{07}	14.431	3.68	.000[b]	Reject H_{07}
Variable	**t-cal.**	**t-critical**	**p-value/sig.**	**Decision**
InKOFTRGlDf	-1.401	1.75	0.192	Reject H_{02}
InKOFTRGlDj	-0.806	1.75	0.439	Reject H_{03}
InKOFFGlDj	6.795	1.75	0.000	
InKOFFGlDf	2.828	1.75	0.018	

Source: Authors calculation. Reject *null hypotheses if F-cal > f-critical; Reject null hypotheses if F-cal.< F-critical*

The test of hypothesis H_{06} shown in table-4.18 shows F-score of 14.431, F-critical of 3.68, and p-value of 0.000. Since F-score is greater than F-critical, (14.431>3.68); the null hypothesis H_{06} was rejected and the alternate hypothesis was accepted. The study concludes that there significant effect of economic globalization on port revenue in Nigeria between 2005 and 2019.

Similarly, t-test was conducted to investigate the significance of the individual effects of trade globalization index de facto, trade globalization index de jure, financial globalization index de fact and financial globalization index de jure on port revenue generated over the period covered in the study. The result shows that only KOF financial globalization index de facto and KOF financial globalization index de jure have t-cal. greater than 1.75 (i.e.: 6.795>1.75; and 2.828>1.75). The study concludes that KOF financial globalization de facto and KOF financial globalization de jure both have significant effect on port revenue generated in Nigerian ports between 2005 and 2019. KOF Trade globalization index de facto and KOF trade globalization index de jure with 1.401<1.75 and 0.806<1.75 respectively; both have no significant effects on port revenue generated in Nigeria between 2005 and 2019.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Summary of Findings

The result of the study indicates that while there is significant effect of economic globalization on the value of shipping export trade, value of shipping import trade, GDP maritime transport, port revenue generated in Nigeria between 2005 and 2019; there is no significant effects of economic globalization of maritime logistics indicator variables such as the ship calls in Nigerian ports, trend of ship turnaround time in Nigerian ports, and the trend of cargo dwell time in Nigerian ports.

It also shows that the mean values of economic globalization index for Nigeria measured by the KOF trade globalization de facto (KOFTRGIDF), trade globalization de jure (KOFTRGIDJ), financial globalization de facto (KOFFGIDF) and financial globalization de jure (KOFFGIDJ) for Nigeria between 2005 and 2019 is 45.4667, 51.1333, 57.6000, and 36.8667 for trade globalization de facto, trade globalization de jure, financial globalization de facto, and financial globalization de jure respectively with respective standard deviations of 0.86115, 0.55948, 0.96016 and 1.17865.

Similarly, the mean value of maritime trade comprised of shipping import and export trades handled per annum over the same period between 2005 and 2019 is 9070292506.0Trillion naira and 12003171608.6Trillion naira respectively for shipping import trade and export trade with respective standard deviations of 4095360633.56747 and 3995937545.37559. The range indicates the differences between the maximum and minimum values of each of the proxies used to identify maritime trade and economic globalization. The result shows that the average number of ship calls to the Nigeria ports per annum over the period between 2005 and 2019 covered in the study is 4742.9333 with standard deviation of 403.7164. The

result also indicates that given the trend of economic globalization in Nigeria, the average values ship turnaround time and cargo dwell time in Nigerian ports per annum between 2005 and 2019 is 5.75days and 20.73days respectively with respective standard deviations of 1.665 and 1.7099.

Similarly, average revenue generated by the ports and the Gross Domestic Product representing the output of the maritime transport and port logistics sub-sector per annum over the period is 145402.0Billion naira and 57511.53Billion naira respectively with respective standard deviations of 78624.36901and 11620.44077.

5.2 Conclusion

Economic globalization in Nigeria has significant effects on the value of shipping export trade, value of shipping import trade, GDP maritime transport, port revenue generated in Nigeria between 2005 and 2019; while it has no significant effects of economic globalization of maritime logistics indicator variables such as the ship calls in Nigerian ports, trend of ship turnaround time in Nigerian ports, and the trend of cargo dwell time in Nigerian ports.

Only KOF financial globalization index de jure has significant effect of the value of shipping export trade in Nigeria between 2005 and 2019. KOF trade globalization index de factor, KOF trade globalization index de jure and KOF financial globalization index de facto all have t-cal. less than t-critical and have no significant effects on shipping export trade in Nigeria.

The KOF financial globalization index de jure, KOF trade globalization index de factor, KOF trade globalization index de jure and KOF financial globalization index de facto all have t-cal. less than t-critical (i.e.: $0.335<1.75$; $0.662<1.75$, $0.842< 1.75$ and $-0.959<1.75$). We conclude that, none of the individual KOF economic globalization index has significant effect on the value of shipping import trade in Nigeria between 2005 and 2019.

Only KOF trade globalization index de facto with t-cal. of 2.889 and t-critical of 1.75 and p-value of 0.016 have significant influence on ship calls to Nigeria ports. The KOF financial globalization index de jure, KOF trade globalization index de jure and KOF financial globalization index de facto all have t-cal. less than t-critical and have no significant effects on ship calls in Nigeria ports.

The KOF financial globalization index de facto, KOF trade globalization index de facto and KOF financial globalization index de jure all have significant effects on the Gross Domestic Product (GDP) contribution of the maritime sub-sector in Nigeria. Only KOF trade globalization index de jure with t-cal. of 1.013 and t-critical of 1.75 and p-value of 0.331 have no significant influence on the GDP maritime transport.

The result shows that only KOF trade globalization index de facto with t-cal. of 2.552 and t-critical of 1.75 and p-value of 0.029 have significant influence on the trend of ship turnaround time in Nigeria ports.

We also conclude that none of KOF trade globalization index de facto, KOF financial globalization index de facto, KOF trade globalization index de jure and KOF financial globalization index de jure have t-cal. greater than 1.75 (i.e.: 0.706<1.75; 0.289<1.75; 0.839<1.75; and 0.489<1.75).

We conclude that KOF financial globalization de facto and KOF financial globalization de jure both have significant effect on port revenue generated in in Nigeria ports between 2005 and 2019.

We conclude that KOF financial globalization de facto and KOF financial globalization de jure both have significant effect on port revenue generated in in Nigeria ports between 2005 and 2019. KOF Trade globalization index de facto and KOF trade globalization index de jure

with 1.401<1.75 and 0.806<1.75 respectively; both have no significant effects on port revenue generated in Nigeria between 2005 and 2019.

5.3 Recommendations

It is recommended among other things, in line with the findings of the study that:

1. Economic globalization has significant effects on Nigeria export trade earnings. Therefore, local regulations should be implemented to protect local producers and to help improve their operations for improved export earnings.
2. Economic globalization has significant effect on value of shipping import trade in Nigeria. Local authorities in Nigeria should implement regulations to protect the economy from dumping and other negative effects of import dependency such as capital flight and depletion of foreign reserve among others
3. The result of the study indicates that there is no significant effect of economic globalization on ship turnaround time in Nigerian ports. This indicates that the long ship turnaround time experience in Nigerian ports is as a result of port logistical planning and not pressure from economic globalization effects. The port authorities in all ports should therefore implement more efficient logistical plans in ports in order to reverse the long ship turnaround time in Nigerian ports.
4. Then result also indicates that there is no significant effect of economic globalization on cargo dwell time in Nigerian ports. This also implies that the long cargo dwell time in Nigerian ports is a result of poor logistical planning. Port authorities should therefore implement more efficient port planning and logistics systems to reverse the long cargo dwell time in Nigeria ports.

5.4 Contribution to Knowledge

The study developed the following models of empirical relationships as the contribution to knowledge:

(1) The model showing the relationship depicting the influence of economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure on Nigeria's value of shipping export trade between 2005 and 2019 is:

$$InEXP_{trade} = 7.484 - 0.428InKOFTRGlDf + 2.046InKOFTRGlDj + 1.95InKOFFGlDj + 0.552InKOFFGlDf + e$$

(2) The model showing the relationship depicting the influence of economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure on Nigeria's value of shipping import trade between 2005 and 2019 is:

$$InIMP_{trade} = 23.396 - 2.388InKOFTRGlDf + 8.279InKOFTRGlDj + 3.838InKOFFGlDj - 9.423InKOFFGlDf + e$$

(3) The equation of the relationship depicting the influence of economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure on ship calls to Nigerian seaports between 2005 and 2019 is:

$$InSHIP_{traffic} = 5.966 + 0.841InKOFTRGlDf - 0.852InKOFTRGlDj + 0.185InKOFFGlDj + 0.486InKOFFGlDf + e$$

(4) The equation of the relationship depicting the influence of economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade

globalization de jure, financial globalization de facto and financial globalization de jure on the GDP maritime transport is:

$$InGDP_{maritime} = 5.016 - 1.21InKOFTRGlDf + 0.503InKOFTRGlDj + 1.623InKOFFGlDj + 0.672InKOFFGlDf + e$$

(5) The equation of the relationship depicting the influence of economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure on the trend of ship turnaround time in Nigerian ports is:

$$InSHIP_{trruaroundtime} = -3.412 + 2.114InKOFTRGlDf + 1.262InKOFTRGlDj - 0.602InKOFFGlDj - 1.415InKOFFGlDf + e$$

(6) The equation of the relationship depicting the influence of economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure on the trend of cargo dwell time in Nigerian ports is:

$$InCARGO_{dwell\text{-}time} = 3.082 - 0.245InKOFTRGlDf - 0.187InKOFTRGlDj + 0.186InKOFFGlDj + 0.234InKOFFGlDf + e$$

(7) The equation of the relationship depicting the influence of economic globalization measured by the KOF economic globalization index- trade globalization de facto, trade globalization de jure, financial globalization de facto and financial globalization de jure on the revenue generated in Nigerian ports is:

$$InPOREV = -128.319 - 9.574InKOFTRGlDf - 10.290InKOFTRGlDj + 29.690InKOFFGlDj + 26.627InKOFFGlDf + e$$

References

Angel, D. P.,. (2007), Global Environmental Standards for Industry. *Annual Review of Environment and Resources,* 32(1), 295-316.

Aylin C. & Yucel o. (2016) Maritime Logistics. Retrieved: 06/07/2021, from http//www.IGglobal.com. DOI: 10.4018/978-1-4666-9779-9.ch019

Arrighi, G. (2005). 'Globalization in world-systems perspective'. In R. Appelbaum and W.I. Robinson (eds.), *Critical Globalization Studies,* 33–44. New York: Routledge.

Adesina O.S. (2012) The Negative Impact of Globalization on Nigeria. *International Journal of Humanities and Social Science Vol.* 2 (15) 193-102

Burawoy, M., Blum, J.A., George, S. et al. 2000. Global Ethnography: Forces, Connections, and Imaginations in a Postmodern World. Berkeley, CA: University of California Press.

Battini, D., Peretti, U., Persona, A., & Sgarbossa, F. (2014) Application of humanitarian last mile distribution model. *Journal of Humanitarian Logistics and Supply Chain Management, 4*(1). 131– 148. http://dx.doi.org/10.1108/JHLSCM-01-2013- 0001.

Chinn M. and Ito H. (2006) What matters for financial development, capital controls, institutions and interactions. *Journal of development economics Vol.* 8(1) 456-461

Chinn, M. and H. Ito (2008), A New Measure of Financial Openness, *Journal of Comparative Policy Analysis* , 10(3), 34-42.

Czaika M., H. de Haas and M. Villares-Varela (2017), The Global Evolution of Travel Visa Regimes, *Population and Development Review*. 44(3): 589-622.

Dappa T.G. and Thom-otuya B. (2010) The Effects of Globalization on Developing Economies: The Nigerian Experience. Sophia: *An African Journal of Philosophy, Vol.* 12 (2)203-221.

Dreher, Axel (2006) Does Globalization Affect Growth? Evidence from a new Index of Globalization call made, *Applied Economics 38*, 10: 1091-1110.

Egger P. and M. Larch (2008), Interdependent Preferential Trade Agreement Memberships: An Empirical Analysis, *Journal of International Economics* , 76(2), 56-64.

Gygli, Savina, Florian Haelg, Niklas Potrafke and Jan-Egbert Sturm (2019): The KOF Globalisation Index – Revisited, *Review of International Organizations, 14(3), 543-574* external pagehttps://doi.org/10.1007/s11558-019-09344-2call_made

Hyeon-Seung H. and Cyn-Young Park (2019) A New Index of Globalization: Measuring Impacts of Integration on Economic Growth and Income Inequality. Asian Development Bank (ADB) Economics Working Paper Series No. 587 | July 2019

Kumar, S., and J. Hoffmann (2002), Chapter 3 Globalization: the Maritime Nexus, in *Handbook of Maritime Economics and Business***,** edited by C. Grammenos, pp. 35-62, Informa, Lloyds List Press, London.

Makinde H.O. (2013) An Appraisal of the Effects of Globalization on the Nigerian Economy. *American Journal of Business and Management, Vol*. 2 (4) 296-303. DOI: 10.11634/216796061302462. http://www.worldscholars.org.

Nwokah N.G. (2015) The Socio-Economic Impact of Globalization in Nigeria. *Journal of Economics and Sustainable Development Vol.* 6 (10) 238-249

Nwokedi T.C., Ndikom O.B., Okoroji L. I., and Nwaorgu J. (2021) Determinant Port-related Factors Affecting the Flow of Shipping Trade and Logistics in Nigerian Seaports. *LOGI – Scientific Journal on Transport and Logistics Vol.* 12 (1)261-270. DOI: 10.2478/logi-2021-0024

Popoola J. (2020) Globalization and Nigeria's Economic Development—A Study of the Interconnectedness. *Open Journal of Political Science,* 10 (2020) 460-480. doi: 10.4236/ojps.2020.103028

Pieterse, N. J. 2004. Globalization and Culture: Global Melange. Lanham, MD: Rowman and Littlefield.

Robinson, W.I. (2004). A Theory of Global Capitalism: Production, Class and State in a Transnational World. Baltimore, MD: The Johns Hopkins University Press.

Ricciardi, A. (2006), Patterns of invasion in the Laurentian Great Lakes in relation to changes in vector activity. *Diversity and Distributions*, 12(4),425-433.

Sklair, L. (2000). The Transnational Capitalist Class. London: Blackwell.

Sklair, L. (2002). Globalization: Capitalism and Its Alternatives. New York: Oxford.

Ubam R. E. and Wilcox R. I. (2017) A Review of the Effects of Globalization on Nigeria Economic Development. *International Affairs and Global Strategy Vol*.49, (2016)12-22.

Yevgeniy G., Tim L., Philip W., James T., Marc S. (2015) The impact of economic, political and social globalization on overweight and obesity in the 56 low and middle income countries. *Social Science & Medicine* 133 (2015) 67-76

APPENDIXES

Descriptive Statistics

	N	Range	Minimum	Maximum	Sum
	Statistic	Statistic	Statistic	Statistic	Statistic
IMPTREADE	15	16085566800.00	10433200.00	16096000000.00	136054387590.00
EXPTRADE	15	11772456200.00	7246543800.00	19019000000.00	180047574130.00
KOFTRGDF	15	10.00	42.00	52.00	682.00
KOFTRGDJ	15	8.00	49.00	57.00	767.00
KOFFGDJ	15	14.00	28.00	42.00	553.00
KOFFGDF	15	14.00	51.00	65.00	864.00
Valid N (listwise)	15				

Descriptive Statistics

	Mean		Std. Deviation
	Statistic	Std. Error	Statistic
IMPTREADE	9070292506.0000	1057417568.70135	4095360633.56747
EXPTRADE	12003171608.6667	1031746637.71497	3995937545.37559
KOFTRGIDF	45.4667	.86115	3.33524
KOFTRGIDJ	51.1333	.55948	2.16685
KOFFGIDJ	36.8667	1.17865	4.56488
KOFFGIDF	57.6000	.96016	3.71868
Valid N (listwise)			

Source: Authors calculation

Descriptive Statistics

	N	Minimum	Maximum	Sum	Mean	Std. Deviation
SHITRAFFIC	15	4009.00	5369.00	71144.00	4742.9333	403.71639
TURNROUNDTIME	15	3.90	10.05	86.29	5.7527	1.66481
POREV	15	53400.00	277680.00	2181030.00	145402.0000	78624.36901
GDPMARITIME	15	37474.95	69799.94	862672.99	57511.5327	11620.44077
DWELLTIME	15	18.00	24.00	311.00	20.7333	1.70992
Valid N (listwise)	15					

Source: Authors calculation

Descriptive Statistics

	Mean	Std. Deviation	N
$InEXP_{trade}$	23.1560	.33641	15
InKOFTRGlDf	3.8145	.07277	15
InKOFTRGlDj	3.9336	.04132	15
InKOFFGlDj	3.5995	.13225	15
InKOFFGlDf	4.0516	.06434	15

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.820[a]	.678	.580	.29269	1.323

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.728	4	.182	6.181	.041[b]
	Residual	.857	10	.086		
	Total	1.584	14			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
		B	Std. Error	Beta			Zero-order
1	(Constant)	7.484	11.618		.644	.534	
	InKOFTRGDF	-.428	1.137	-.093	-.377	.714	-.073
	InKOFTRGDJ	2.046	2.124	.251	.964	.358	.004
	InKOFFGDJ	1.950	.727	.767	2.683	.023	.617
	InKOFFGDF	.552	1.567	.106	.352	.732	-.204

a. Dependent Variable: InEXTRADE

Source: Author's calculation

Descriptive Statistics

	Mean	Std. Deviation	N
$InIMP_{trade}$	22.4909	1.78180	15
InKOFTRGlDf	3.8145	.07277	15
InKOFTRGlDj	3.9336	.04132	15
InKOFFGlDj	3.5995	.13225	15
InKOFFGlDf	4.0516	.06434	15

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.754[a]	.569	-.461	1.83511	2.917

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	10.771	4	2.693	5.800	.052[b]
	Residual	33.676	10	3.368		
	Total	44.447	14			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
		B	Std. Error	Beta			Zero-order
1	(Constant)	23.396	72.839		.321	.755	
	lnKOFTRGlDf	-2.388	7.129	-.098	-.335	.745	.007
	lnKOFTRGlDj	8.279	13.316	.192	.622	.548	-.048
	lnKOFFGlDj	3.838	4.557	.285	.842	.419	.402
	lnKOFFGlDf	-9.423	9.822	-.340	-.959	.360	-.404

a. Dependent Variable: lnIMTRADE

Source: Authors calculation

Descriptive Statistics

	Mean	Std. Deviation	N
lnSHItraffic	8.4578	.09058	15
lnKOFTRGDF	3.8145	.07277	15
lnKOFTRGDJ	3.9336	.04132	15
lnKOFFGDJ	3.5995	.13225	15
lnKOFFGDF	4.0516	.06434	15

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.715[a]	.511	.316	.07493	1.417

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.059	4	.015	2.615	.099[b]
	Residual	.056	10	.006		
	Total	.115	14			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
		B	Std. Error	Beta			Zero-order
1	(Constant)	5.966	2.974		2.006	.073	
	lnKOFTRGDF	.841	.291	.676	2.889	.016	.556
	lnKOFTRGDJ	-.852	.544	-.389	-1.567	.148	-.277
	lnKOFFGDJ	.185	.186	.270	.995	.343	.231
	lnKOFFGDF	.486	.401	.345	1.212	.253	-.100

a. Dependent Variable: lnSHItraffic

Source: Authors calculation

Descriptive Statistics

	Mean	Std. Deviation	N
InGDmaritime	10.9387	.21757	15
InKOFTRGDF	3.8145	.07277	15
InKOFTRGDJ	3.9336	.04132	15
InKOFFGDJ	3.5995	.13225	15
InKOFFGDF	4.0516	.06434	15

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.964[a]	.929	.901	.06839	1.950

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.616	4	.154	32.920	.000[b]
	Residual	.047	10	.005		
	Total	.663	14			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
		B	Std. Error	Beta			Zero-order
1	(Constant)	5.016	2.715		1.848	.094	
	InKOFTRGDF	-1.212	.266	-.405	-4.560	.001	-.421
	InKOFTRGDJ	.503	.496	.095	1.013	.335	-.233
	InKOFFGDJ	1.623	.170	.987	9.557	.000	.836
	InKOFFGDF	.672	.366	.199	1.837	.096	-.219

a. Dependent Variable: InGDmaritime

Descriptive Statistics

	Mean	Std. Deviation	N
$InSHP_{turnroundtime}$	1.7143	.26970	15
InKOFTRGlDf	3.8145	.07277	15
InKOFTRGlDj	3.9336	.04132	15
InKOFFGlDj	3.5995	.13225	15
InKOFFGiDf	4.0516	.06434	15

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.744[a]	.554	.375	.21321	2.240

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.564	4	.141	3.100	.067[b]
	Residual	.455	10	.045		
	Total	1.018	14			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
		B	Std. Error	Beta			Zero-order
1	(Constant)	-3.412	8.463		-.403	.695	
	InKOFTRGlDf	2.114	.828	.570	2.552	.029	.664
	InKOFTRGlDj	1.262	1.547	.193	.815	.434	.242
	InKOFFGlDj	-.602	.529	-.295	-1.136	.282	-.168
	InKOFFGlDf	-1.415	1.141	-.338	-1.240	.243	-.232

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	1.4181	1.9734	1.7143	.20066	15
Residual	-.40065	.34908	.00000	.18020	15
Std. Predicted Value	-1.477	1.291	.000	1.000	15
Std. Residual	-1.879	1.637	.000	.845	15

a. Dependent Variable: $InSHIP_{turnroundtime}$

Descriptive Statistics

	Mean	Std. Deviation	N
$InDWELL_{time}$	3.0286	.08181	15
InKOFTRGlDf	3.8145	.07277	15
InKOFTRGlDj	3.9336	.04132	15
InKOFFGlDj	3.5995	.13225	15
InKOFFGlDf	4.0516	.06434	15

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.385[a]	.148	-.193	.08935	1.407

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.014	4	.003	.434	.781[b]
	Residual	.080	10	.008		
	Total	.094	14			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations
		B	Std. Error	Beta			Zero-order
1	(Constant)	3.082	3.546		.869	.405	
	InKOFTRGlDf	-.245	.347	-.218	-.706	.496	-.265
	InKOFTRGlDj	-.187	.648	-.095	-.289	.779	-.161
	InKOFFGlDj	.186	.222	.301	.839	.421	.230
	InKOFFGlDf	.234	.478	.184	.489	.635	.032

a. Dependent Variable: $InDWELL_{time}$

Source: author's calculation

Descriptive Statistics

	Mean	Std. Deviation	N
InPOREV	9.4395	3.86996	15
InKOFTRGDF	3.8145	.07277	15
InKOFTRGDJ	3.9336	.04132	15
InKOFFGDJ	3.5995	.13225	15
InKOFFGDF	4.0516	.06434	15

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.923[a]	.852	.793	1.75953	1.600

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	178.713	4	44.678	14.431	.000[b]
	Residual	30.959	10	3.096		
	Total	209.673	14			

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-128.319	69.839		-1.837	.096
	InKOFTRGlDf	-9.574	6.835	-.180	-1.401	.192
	InKOFTRGlDj	-10.290	12.767	-.110	-.806	.439
	InKOFFGlDj	29.690	4.369	1.015	6.795	.000
	InKOFFGlDf	26.627	9.417	.443	2.828	.018

a. Dependent Variable: *InPOREV*

Source: author's calculation

Appendixes

4.1.3: Natural Log transformation of table-4.1.1

	lnMPTRADE	lnEXPTRADE	lnKOFTRDF	lnKOTRDJ	lnKOFFDJ	, lnKOFFDF
2005	23.03	22.70	3.83	3.89	3.33	4.09
2006	16.16	22.71	3.81	3.95	3.37	4.16
2007	23.23	22.84	3.85	4.04	3.40	4.17
2008	23.45	23.04	3.85	3.93	3.53	3.95
2009	22.36	22.83	3.85	3.95	3.64	3.93
2010	22.75	23.18	3.87	3.91	3.66	4.01
2011	23.05	23.42	3.87	3.91	3.69	4.01
2012	22.93	23.41	3.91	3.93	3.74	4.04
2013	22.67	23.38	3.95	3.93	3.71	4.04
2014	22.67	23.50	3.74	3.89	3.71	4.04
2015	22.53	22.93	3.74	3.89	3.71	4.06
2016	22.81	22.81	3.74	3.89	3.64	4.06
2017	22.93	23.29	3.74	3.95	3.64	4.06
2018	23.29	23.62	3.74	3.99	3.61	4.06
2019	23.50	23.67	3.74	3.93	3.61	4.08

Source: Authors calculation

4.1.4: natural Log transformation of table-4.1.2

	GDPMT	SHITRAFFIC	POREV	TRUNROUNDTIME	DWELLTIM
2005	10.53	8.43	3.98	1.79	3.04
2006	10.60	8.48	4.06	1.89	3.00
2007	10.67	8.49	4.14	1.84	2.94
2008	10.74	8.44	4.29	1.57	2.89
2009	10.82	8.46	4.36	2.31	3.00
2010	10.91	8.49	11.52	2.06	3.14
2011	10.96	8.56	11.65	1.89	3.09
2012	11.00	8.48	11.82	1.82	3.04
2013	11.05	8.59	11.97	1.76	2.94
2014	11.11	8.58	12.06	1.44	3.00
2015	11.14	8.52	12.09	1.40	3.04
2016	11.13	8.38	12.11	1.36	2.94
2017	11.13	8.32	12.49	1.66	3.14
2018	11.15	8.30	12.51	1.46	3.04
2019	11.14	8.35	12.53	1.46	3.18