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EFFECT OF INTERNATIONAL SEABORNE TRADE ON CARGO THROUGHPUTS OF PORTS IN NIGERIA

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ABSTRACT

This study examined the effect of international seaborne trade on cargo throughputs of ports in Nigeria. The predictor variable (international seaborne trade) had its dimensions as oil export, non-oil export, oil import and non-oil import. The criterion variable (on cargo throughputs) was measured with cargo throughput. The theories that underpinned the study included: Absolute advantage theory and theory of international trade, ex-post facto research design was used for the study. Secondary sources of data were used as the main data collection method. Relevant data for this study were collected from the annual reports and accounts of Nigerian Ports Authority, National Bureau of Statistics and Central Bank of Nigeria Annual Statistical Bulletins (1981 – 2022). The population of the study consisted of all the 6 ports in Nigeria. The study used descriptive and inferential statistical tools to analyse the data. Specifically, multiple regression analiysis of ordinary least square estimation was used to test the hypotheses with the aid of SPSS 26.0. The reliability of the research instrument was validated on the basis of the secondary data sources. The study revealed that there are opportunities to develop and use oil and non-oil export channels for international seaborne trade through ports. The study revealed that ports recognize that oil export, non-oil export, oil import and non-oil import provide the government and business community variety of options to engage in seaborne trade of intensive nature. The study found that international seaborne trade is boosted when cargo throughputs is increased. The study concluded that: Oil export has significant effect on cargo throughputs (t= 8.079), non-oil export has negative and significant effect on cargo throughputs (t = -2.869), oil import has negative and insignificant effect on cargo throughputs (t = -0.485) and non-oil import has significant effect on cargo throughputs (t = 4.059). This study, therefore, recommended that Nigerian ports should prioritize and utilize the full capacity available in seaborne trade and channel oil exports and non-oil exports towards increasing the cargo throughputs of ports in Nigeria and Nigerian ports should encourage the export of non-oil products by putting up facilities, infrastructures and conducive environment as cargo throughputs is significantly increased for optimal performance of seaports in Nigeria.

Keywords: International Seaborne Trade, Oil Export, Non-Export, Oil Import, Non-Oil Import, Cargo Throughputs Of Ports.

I. INTRODUCTION

Seaborne trade is a business transaction that entails the shipment of goods (cargo) and people by sea and other waterways. Seaborne trade is the movement of merchandise by vessels between the port of origin where merchandise is received from the exporter at the port of origin to the port of destination where merchandise is claimed by the importer (UNCTAD, 2020). More than 80% of world trade is carried by sea constituting by far the most important means of transport of goods. Maritime transport has been growing annually by around 3.1% for the past three decades (World Bank, 2020a). Seaborne trade represents greater than 90% of the international trade in the World. The phase "he who controls the trade controls the world economy "has remained truism. It may seem obvious to say that today we live in a global World, and it is certainly true that Seaborne trade makes it possible for a truly global economy to work (Clarksons Research, 2020).

The phrase ''he who controls the trade controls the world economy'' has remained a truism (Lei & Bachmann, 2020). Gicheru (2020) submits that today we live in a global world, and it is certainly true that the seaborne trades among all the nations and regions of the world are nothing new. From the Phoenicians the Vikings the Omanis the Spaniards the Portuguese the Italians the British the French the Dutch the Polynesians and Celts the history of the world is a history of exploration conquest and trade by sea (UNCTAD, 2019). Eventually the great seaborne trade became established: Coal from Australia Southern African and North America to Europe and the

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Far East Grain from North and South America and Australia to Europe and the Far East Oil from the Middle East West Africa South America and Asia and now adding to this list Containerized goods from China Japan and South-East Asia to the consumer market of the Western world (Farahane & Heshmati, 2020).

Stopford (2009) conceptualizes seaborne trade as one that involves the movements of merchandise by vessels between the port of embarkation (origin) where merchandise is receiving from the exporter at the port of destination where the merchandise is claimed by the importer. Zhang and Roe (2018) argue that seaborne trade remains the backbone of international trade with over 80 percent of world merchandise trade by volume being carried by sea. Quantifying the value of volume of World seaborne trade in monetary terms is difficult as figures for trade estimates are traditionally in terms of tons or tons miles and are therefore not comparable with monetary based statistics for the value of the world economy (Foyeku, 2019).

Nigeria and Nigeria's investments in seaborne trade shipping have advanced retrogressively since the end of the eighties. Nigerian government's ships then which were over twenty-six were all sold to settle accumulated debts. Private sector investment in the industry was also very low from the Nigerian side (Lloyd & Odiegwu, 2019). The intrinsic assumption from this could be that Nigeria lacks the shipping demand output to support investment in seaborne trading **(**Odiegwu & Enyioko, 2022a**).**

The research focuses on determination of the effect of international seaborne trade on cargo throughputs of ports in Nigeria. The adoption of oil export, non-oil export, oil import and non-oil import to elicit the demand/transactions for international seaborne trade and the use of cargo throughputs to measure port performance would help to fill the gaps identified during the extant literature review and achieve the research objectives in this study.

In Nigeria the trending issues of vessel turnaround time cargo pilferage-risk-profile low cargo throughputs delays caused by port congestion increasing tendency of cargo dwell time low port productivity cumbersome cargo examination procedures and bottlenecks high berth occupancy rate multiplicity of government agencies and charges poor state of port infrastructure and superstructure etc. have been identified in many publications as factors that negatively affect the efficiency of seaborne trade in Nigerian (Olusegun 2020; Okwedy 2020; Onyeabor 2018; Ahmed, 2019). These issues make it imperative to determine the nature and manner in which international seaborne trade affects cargo throughputs of ports in Nigeria. This research investigated the effect of international seaborne trade on cargo throughputs of ports in Nigeria. Accordingly, the following hypotheses were formulated and investigated: $Ho_{1:}$ Oil exports have no significant effect on cargo throughputs of ports in Nigeria. Ho_2: Non-oil exports have no significant effect on cargo throughputs of ports in Nigeria.

Ho_3: Oil imports have no significant effect cargo throughputs of ports in Nigeria. Ho_4:Non-oil imports have no significant effect on cargo throughputs of ports in Nigeria.

II. LITERATURE REVIEW

Theoretical Framework

This study examined the effect of international seaborne trade on cargo throughputs of ports in Nigeria. The theoretical framework that underpinned the study has been explored. Theories such as: Absolute advantage theory and theory of international trade have been x-rayed in this section.

Absolute Advantage Theory

This theory was propounded by Adam Smith in his 1776 publication An Inquiry into the Nature and Causes of the Wealth of Nations. This theory uses a two-by-two model i.e. there are two countries involved in the trading of two commodities and using only two factors of production; labour and capital. The theory says that a country should export products in which it is more productive than other countries: that is goods for which it can produce more output per unit of input than others can (i.e. in which it has an absolute advantage) while importing those goods where it is less productive than other countries (i.e. in which it has an absolute disadvantage) (Ajayi, 2010).

Absolute advantage means the ability of a country to produce a larger quantity of a good with the same number of resources as another country. The country's absolute advantage may be due to the nature of its resources or to its production skills (Heckscher, 1919). According to Smith each nation benefits by specializing in the production of the good that it produces at a lower cost than the other nation while importing the good that it

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produces at a higher cost. This will increase specialization world output and the gains from trade (Clark et al., 2004).

According to this theory foreign trade is a positive-sum game because both countries involved will benefit from the trade. Thus, a nation need not gain at the expense of other nations as all nations could gain simultaneously (Shaw, 2018). However there arises the question of whether or not to trade when one of the two countries trading has an absolute advantage in the production of the two commodities. Should trade still take place when can one partner produce both commodities more efficiently than the other partner? The theory failed to answer this question satisfactorily and that gave rise to Ricardo's theory of Comparative Advantage.

It is also the ability to produce more of a given product using a given number of resources. Balogun (2016) opine that this concept could be in contrast to the notion of comparative advantage which means the ability to produce a particular good at a lower opportunity cost. The argument for free trade is couched on the law of absolute advantage developed by Adam Smith and later fine-tuned by David Ricardo (in the 18th century) into the law of comparative advantage. According to Adam Smith each country should specialize in those goods or services in which it has absolute advantage. David Ricardo further argues that even when one country has absolute advantage in the product of two goods and against another country it may still be more beneficial to both countries if each of them specialize in the production of only one of the goods. With this both countries can enjoy the benefits of comparative advantage and enhance the process of exchange between the two (Kingsland, 2020).

Theory of International Trade

In the early 1900s a theory of international trade was developed by two Swedish economists Eli Heckscher and Bertil Ohlin. This theory has subsequently become known as the Heckscher–Ohlin model (H–O model) (Sanyal & Jones, 1982). The results of the H–O model are that the pattern of international trade is determined by differences in factor endowments. It predicts that countries will export those goods that make intensive use of locally abundant factors and will import goods that make intensive use of factors that are locally scarce (Sanyal & Jones, 1982).

The Heckscher–Ohlin model makes the following core assumptions (Ohlin, 1933): Labor and capital flow freely between sectors equalising factor prices across sectors within a country. The amount of labor and capital in two countries differ (difference in endowments). Technology is the same among countries (a long-term assumption), and tastes are the same upon countries.

According to Harbeler (1988) there are four vital points regarding the - dynamic benefits of international trade on participating less developed countries (LDCs): First trade provides material means (capital goods machinery and raw and semi-finished materials) indispensable for economic development. Secondly and even more important trade is the means and vehicle for the dissemination of technological knowledge the transmission of ideas for the importation of know-how skills managerial talents and entrepreneurship. Thirdly trade is also the vehicle for the international movement of capital especially from the developed to the underdeveloped countries. Fourthly free international trade is the best anti-monopoly policy and the best guarantee for the maintenance of a healthy degree of free competition (Haberler, 1988).

International trade theory provides explanations for the pattern of international trade and the distribution of the gains from trade. The theory convinces most economists of the benefits of liberal trade. But many non-economists oppose liberal trade. Opponents include some who may have encountered trade theory but nevertheless fall prey to fallacious reasoning. This article attempts to convey why trade theory is so persuasive to economists and also to deal with why many non-economists are not persuaded.

Ideally international trade leads to an increase in income in the level of investment and in the state of technical knowledge in the country. The increase in investment and improvements in innovations and technological progress then lead to increased productivity and competitiveness and trigger a further increase in trade and in income. This positive feedback continues and brings about a ―virtuous circle‖ of increased trade rising income and economic development. Nevertheless, experience has shown that successful crude oil shipment performance requires a broadly supportive policy environment including macroeconomic stability public investment in infrastructure and human capital and policies that provide adequate incentives for investment in the crude oil shipment sector.

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Above all these policies should be consistent transparent and steadily maintained over a long period of time. Ajayi and Araoye (2019) argued that a general perspective of the theory of international trade is interchange of goods capital and services across international territories. Munim and Schramm (2018) wrote that in many international markets it reveals an ample share of gross domestic product (GDP). While international trade has been present throughout much of history its economic social and political significance has been increasing in recent centuries. Tong and Wei (2014) opine that industrialization advanced transportation globalization multinational corporations and outsourcing are all having major impact on the international trade system. They argued further that rising foreign trade is critical to the continuance of globalization. International trade is a major source of economic revenue for any nation that is considered a world power. Without foreign trade countries would be restricted to the goods and services produced within their own borders (Martin, 1992).

This study adopted the theory of international trade because it provides a valuable insight into the nature of the link between international seaborne trade and cargo throughputs of ports. It is of a demand-driven link whereby oil and non-oil shipment growth stimulates seaborne trade that add up to the growth productivity and effective development of the ports. The theory of international trade allows for effective and efficient participation in crude oil and non-oil shipment, and it permits economies of scale not open to small - protected economies. By introducing greater market competition oil and non-oil shipment encourages a more efficient utilization of resources and greater growth/efficiency in cargo throughputs vessel turnaround time and productivity of ports.

Conceptual Framework

This study evaluated the effect of international seaborne trade on cargo throughputs of ports in Nigeria. In carrying out the study four dimensions of international seaborne trade (independent variable or predictor variable) namely oil exports, non-oil exports, oil imports and non-oil imports were examined. These dimensions were adopted in line with the works of Proshare (2020); Olusegun (2020); Okwedy (2020) and Onyeabor (2018). Also, cargo throughputs of ports in Nigeria shall serve as the key dependent or criterion variable under which the measures such as cargo throughputs vessel turnaround time and port productivity would be appraised.

The study adopted part of the classification of cargo throughputs of ports in Nigeria espoused by Agbo et al. (2018); Kingsland (2020); Ajayi and Araoye (2019) and Ahmed (2019) in maritime transportation evaluation involving port performance indicators. The imperative of the usage of these elements to measure cargo throughputs of ports in Nigeria has become obvious as could be seen from the conceptual framework of the Study- "the effect of international seaborne trade and cargo throughputs of ports in Nigeria" (see figure 1):

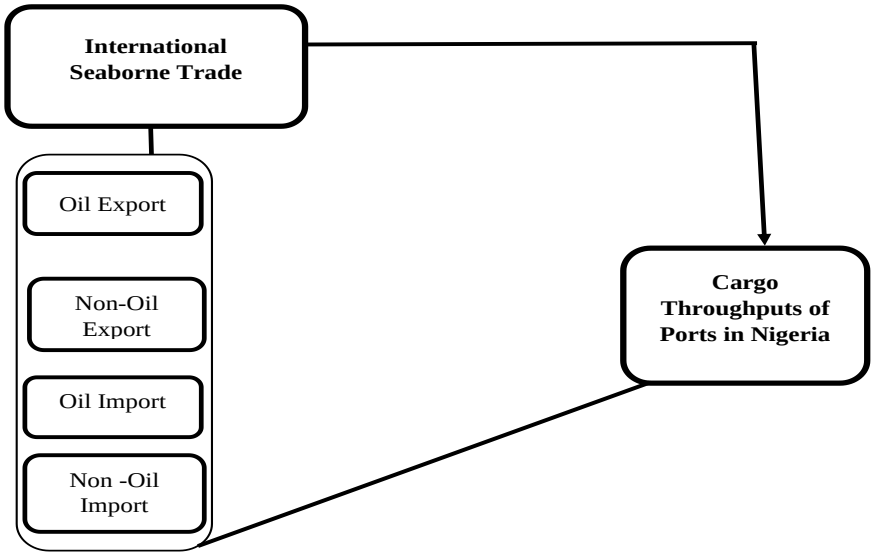

Figure 1: Conceptual Framework of the Effect of International Seaborne Trade on Cargo Throughputs of Ports in Nigeria

Sources: Olusegun (2020); Okwedy (2020); Monday *et al*. (2021); Desk Research (2023).

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This section has been used to review the literature relevant to the study. To achieve the literature review objective the study critically examined the theoretical foundation of the study such as absolute advantage theory neoclassical theory of external trade comparative advantage theory and theory of international trade. Also, the literature review has captured concepts like- international seaborne trade oil exports non-oil exports oil imports non-oil imports port performance cargo throughputs vessel turnaround time port productivity foreign exchange rate empirical studies on the area of the study as well as the summary of the literature review with evidence of gaps in literature.

International Seaborne Trade

International seaborne trade is the one transacted by persons, companies, agencies or governments through the sea. Stopford (2009) defines seaborne trade as the movement of merchandise by vessels between the port of origin where merchandise is received from the exporter at the port of origin to the port of destination where merchandise is claimed by the importer. Seaborne trade connects countries Markets Business and people allowing them to buy and sell goods all over the World. Seaborne Cargoes comprise commodities of different types and sizes. They can be grouped into six main categories: Energy trade Agriculture trade Metal industry trade Forest product Manufactured commodities (Emi, 2016). The history of the World is a history of exploration and trade by Sea. As a result of this Seaborne trade was established Coal from

Iyoha and Okim (2017) see seaborne oil trade as the exchange of petroleum resources (crude oil and refined oil resources) from and to supply and demand countries and its carriage and/or transportation by sea using ocean going tankers vessels. It is composed of seaborne oil export and import trade and covers all kinds of petroleum energy resources whether crude oil or refined petroleum resources. Nigeria's seaborne oil trade comprises seaborne refined petroleum products import trade and crude oil export trade via the Nigeria seaports and the oil export terminals respectively; both categories of marine terminals being administered by the Nigeria Ports Authority (NPA). Oil is a major source of energy in the global economy and a major ocean-based energy resource found in large quantities onshore and offshore in Nigeria. Thus, its exploration drilling and subsequent transportation to market centers refineries and depots are mostly sea-based activities involving the use of vessels of various kinds and forms ranging from Exploration vessels and tanker vessels; to drilling Floating Production Storage and Offloading Systems (FPSO'S) (Yom, 2015). Apart from the use of pipelines in the long-distance transportation of fossil energy resources shipping by use of vessels offers the best alternative for long distance carriage of oil trade globally.

Nigeria has a long and proud maritime heritage which has played an integral role in the development of Western Africa by the provision of an efficient and cost effective seaborne into Western and Central Africa and beyond (Yakubu & Akanegbu, 2018). Nigeria's location and population make it a country of diverse economic capabilities with large investment opportunities as its seaborne trade. Thus, this advantage opposition enables her easy access for other ports of the sub-region are being transshipped from Nigerian major seaports. The country has a coastline of over 750km and eight major ports excluding oil terminals with a cargo handling capacity of 35million tones per annum (Balogun, 2016).

UNCTAD (2021) and Cariou (2020) view seaborne as a mode of transport that has continued to represent the cheapest and most efficient means of moving very large volume of import and export trade goods in the Nigerian international trade. In Nigeria the seaborne sector has been responsible for facilitating over 90 percent of trading prospects. Nigeria accounts for over 60 percent of total seaborne traffic in volume and value in the West African subregion with a GDP accounting for over 60 percent of total GDP of 16 countries that make up the Economic Community of West African States (ECOWAS). The success or otherwise of the Nigeria seaborne trading sector therefore has a reverberating impact on the sub-region (World Bank, 2020).

Onuorah (2018) notes that Nigeria is the largest oil and gas producer in Africa with the history of oil exploration in Nigeria dating back to 1907 when Nigerian Bitumen Corporation conducted exploratory work in the country during the early period of the first World War. Following the country's breakthrough into the oil and gas ocean energy market in the mid 1950's it has developed a viable oil and gas sector adjudged to be among the best in the world. At present about 5284 wells have been drilled mostly in the Niger Delta region of Nigeria (Odiegwu & Enyioko 2022b).

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Both Ndikom (2006) and Oluwaleye (2014) viewed seaborne as a mode of transport that has continued to represent the cheapest and most efficient means of moving very large volume of import and export trade goods in the Nigerian international trade. In Nigeria the seaborne sector has been responsible for facilitating over 90 percent of trading prospects. Nigeria accounts for over 60 percent of total seaborne traffic in volume and value in the West African sub- region with a GDP accounting for over 60 percent of total GDP of 16 countries that make up the Economic Community of West African States (ECOWAS). The success or otherwise of the Nigeria seaborne trading sector therefore has a reverberating impact on the sub-region (Onuorah, 2018).

Although the Nigerian seaborne trade relations were built among the traditional agricultural and mining products of cocoa palm produce groundnuts rubber cotton hides and skins tin coal and columbite among others. But with the discovery of oil our recipients were given a greater boost and very rapidly oil receipt dominated foreign exchange earnings by accounting for over 98 percent by 1996. That for several years after independence the emergence of oil prosperity in the country denied any serious attention to be paid to the prospects of non-oil exports trade until the Structural Adjustment Programme (SAP) by the government in 1968 (Monday et al., 2021).

Badejo and Solaja (2017) describe exporting as the process of earning profits by selling products or services in foreign markets. He further gave the concepts of exportation; he said "exportation must be based on the principles of local sufficiency". This connotes that a country that will engage in any export trade mission should therefore as the case must be has such a product in large quantities and it must be easily available in reasonable sufficiency. As a resource-rich country Nigeria's economic performance has been unfortunately driven by only the oil and gas sector to the extent that even progress recorded towards genuine economic development prior to the discovering of oil in commercial quantity has been virtually eroded.

The Covid-19 pandemic initially resulted in a decline in global maritime trade in 2020 but trade substantially bounced back in 2021 in part due to deferred demand and large stimulus packages.

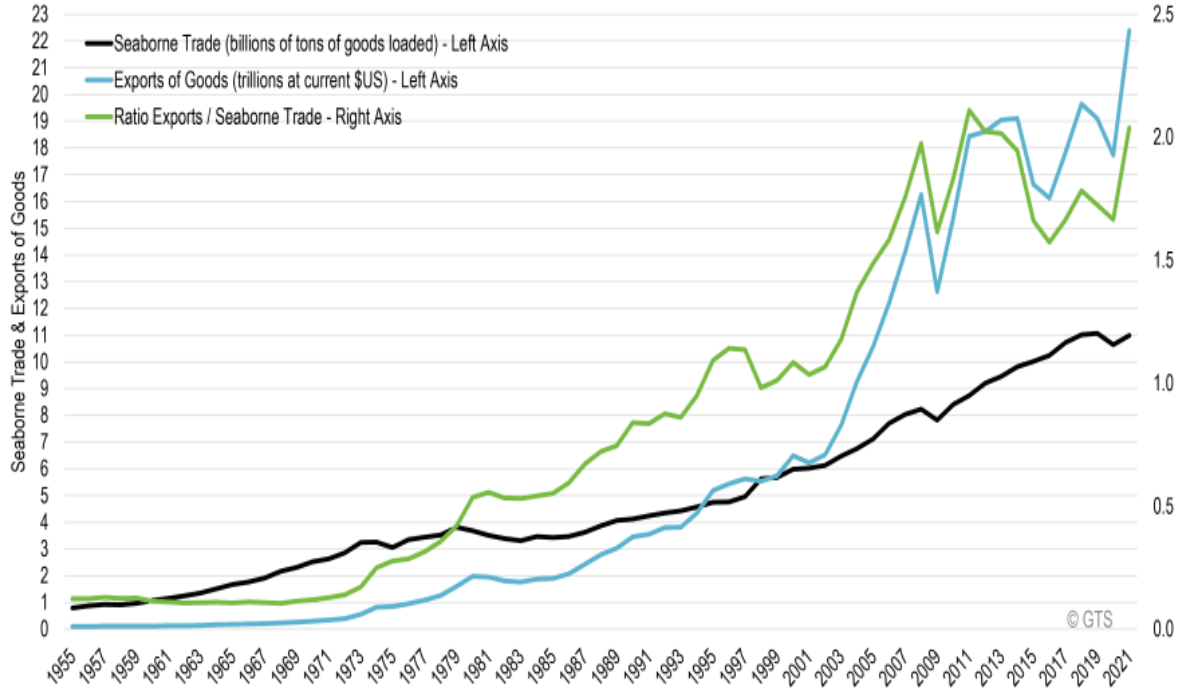

Figure 2: International Seaborne Trade During COVID And Thereafter

Source: UNCTAD (2022) Seaborne Trade and Export of Goods

In 2020 because of the fallout from the COVID-19 pandemic international seaborne trade contracted by nearly four per cent but in 2021 there was a rebound as the global economy started to recover and continued consumer spending along with an easing in pandemic-related restrictions (Clarksons Research, 2022).

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Oil Export

At international frontier oil is traded physically or by customization and by commoditization. Customizable oil trade is divided into a) spot oil market and b) forward oil market. The term "spot oil market" generally refers to a short-term oil transaction where oil physically changes hands very soon after the seller receives payment (Umoru & Eborieme, 2013). On the other hand, forward oil markets refer to contracts where buyers and sellers agree up-front on a price for a commodity that will be delivered at some point in the future. Customizable oil trade (spot and forward oil market) entails one-on-one transactions between two companies or a company and a country or between two countries (Caliskan & Ozturkoglu, 2018). In customization oil produce can be exchanged for money or for another commodity or for debt settlement many countries including OPEC members sell more at spot oil market "price" (Caliskan & Ozturkoglu, 2018).

Commoditization of oil trade means the exchange of oil produce in commodity exchange market like other commodities/stocks such as gold, silver and currency. Oil exchange floor is where oil suppliers and buyers meet to trade various blends of oil via options futures and physical delivery of crude oil and other oil products. In commoditization of oil trade oil is traded with options and futures contract (Nze et al., 2020). Oil options and futures contract are standardized exchange-traded contracts in which the contract buyer agrees to take delivery from the seller a specific quantity of oil at a predetermined price on a future delivery date. The difference between futures and forward oil markets can be confusing at times. In 2020 Nigeria exported $613M in Refined Petroleum making it the 56th largest exporter of Refined Petroleum in the world. At the same year Refined Petroleum was the 5th most exported product in Nigeria.

The main destination of Refined Petroleum exports from Nigeria are: United States ($169M) United Kingdom ($107M) Belgium ($96.2M) Netherlands ($49.9M) and Germany ($44.5M). The fastest growing export markets for Refined Petroleum of Nigeria between 2019 and 2020 were Belgium ($92.5M) United States ($59.4M) and Italy ($21.1M) (Monday et al. 2022) (Nze et al., 2020).

The primary difference is that a futures contract is a highly standardized oil commodity sold through a commodity/financial exchange rather than a highly customizable contract bought and sold through one-on-one transactions. OPEC members sell more on customizable oil market rather than commoditized oil market whereas the reverse holds for non-OPEC members. Oil futures and forward markets protect and "hedge" against rising or falling prices resulting from all forms of turmoil that causes global oil price volatility (Park & Suh, 2019).

The major exchanges in which oil is traded are The New York Mercantile Exchange (NYMEX) in New York City, the Intercontinental Exchange (ICE) in London and Atlanta West Texas Intermediate (WTI) in U.S The Tokyo Commodity Exchange (TOCOM) in Japan Singapore exchange (SGX) Dubai exchange (DGX) and newly established International Energy Exchange (IEE) in Shanghai China. Different forms of crude oil blends and grades are trade in the aforementioned exchange floors globally (Nze et al., 2020). For instance Light sweet crude is exchanged in NYMEX TOCOM and WTI while ICE exchange Brent crude oil and SGX DGX and IEE exchange medium-sour crudes this indicates that oil are heterogeneous commodity (UNCTAD, 2019). Crude oil is heterogeneous in that some can be extracted at a cost of a few dollars per barrel wheal others requires sophisticated equipment techniques and processing to extract and is thick as tar requiring special methods to transport it to the refinery (and to refine into saleable petroleum products). In general oil with a low viscosity is referred to as "light" while thicker higher-viscosity crude oils are referred to as "heavy" (Nze et al. 2020). Light oils are generally valued higher than heavy oils. The viscosity of crude oil is measured on a scale known as the American Petroleum Institute (API) gravity. The API gravity scale measures how heavy or light a crude oil is relativeto water (thus the terms heavy and light oil). The API gravity of a crude oil is measured by taking its specific gravity (density relative to water). Sulfur content is another important factor that determinants the value and heterogeneity of crude oil the lower the sulfur content the better."Sweet" oils are low in sulfur while "sour" oils have higher sulfur content (Bensassi et al., 2019). Nigeria's exports in the second quarter of 2022 were dominated by crude oil accounting for 80 per cent of total export revenue despite the huge oil theft recorded in recent times (Odiegwu & Enyioko 2022b). Data sourced from the National Bureau of Statistics latest report on Merchandise Trade showed that crude oil exports valued at N5.9bn accounted for 80 per cent of total exports undertaken by Nigeria in the period under review (NBS & CBN, 2022).

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Non-Oil Export

Non-oil exports simply expressed are items other than crude oil (petroleum products) that are sold in the foreign exchange market only to generate cash. Farm products exports construction and manufacturing exports solid mineral exports and place in the internationalappear to be the four primary parts of Nigeria's non-exports industry. Agricultural commodities goods produced solid minerals entertainment and vacation services and other non-oil export commodities are limitless (Onuorah 2018).

Exports are one of the oldest forms of economic transfer and occur on a large scale between nations that have fewer restrictions on international trade such as tariffs or subside. According to Osidipe et al. (2018) the term export derives from the goods and services out of the port of a country. The seller of such goods and services is referred to as an exporter whereas the overseas based buyer is referred to as an importer". According to national accounts exports consist of transactions in goods and services (sales barter gifts or grants) from residents to non-residents. Smuggled goods must be included in the export measurement". In national accounts any direct purchases by non-residents in the country's economic territory are recorded as service exports; therefore, all expenditures by foreign tourists in the country's economic region are considered part of the export's services of that country. Also, international flows of illegal services must be included. Exports also include the distribution of information that can be sent in the form of an e-mail fax or can be shared during a telephone conversation (Umoru & Eborieme, 2013). Thus, in economics an export refers to any good or commodity transported from one country to another in a legitimate fashion typically for use in trade. Many countries engage in export trade.

The Federal government of Nigeria started to diversify the Nation's economy as a result of the foregoing. And in the meantime despite the aforementioned problems the non-oil industry has potential for growth as shown in Table 1 below:

Table 1: Sub-sector of the Non-Oil Sector and their Range of Business Activities

S/N	Sub-Sector	Description of Activities
1	Agriculture	Cultivation harvesting handling processing storage distribution of various crops (cocoa oil palmsesame seeds groundnut maize) Rearing processing and distribution of livestock fishery and domesticated animals
2	Manufacturing	There are ten (10) sub-sectors of manufacturing sector: Production packaging distribution linesmarketing export line etc.
3	Environmental services	Cleaning of offices and homes urban waste collection and recycling street cleaning energygeneration from waste etc.
4	Building and Construction	Metal works supplies of building materials block and roofing works plumbing and electrical finishing(tiling paintings decorations gardening etc.)
5.	Health services	Hospitals pharmaceutical industries Pharmaciesdrug supplies and accessory services
6.	Mineral Activities	Exploration mining processing marketing mineraltesting and transportation
7.	Power	Power generation and distribution meter reading production and supply of electrical accessoriesinstallations maintenance renewable energy investments such as solar hydro and wind
8.	Telecommunication services	Telecommunication engineering services installations telephone wholesale and retail servicesmarketing services.
9.	Financial sector	Banking insurance installation maintenance marketing services transportation etc.

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Source: Researcher's Compilation Based on Webometrics (2023).

This represents the largest telecommunications market in Africa according to Nwaogbe et al. (2020). In addition, this industry has helped to create jobs by employing 300000 people each year. Meanwhile the tourism industry has a revenue and manpower generation capability of more than N1 trillion and it now generates roughly N150 billion per year. The four (4) primary sectors that are involved in exporting are described in the precedingparagraphs for a better grasp of the subject matter:

Oil Import

Crude oil is a major driver of businesses manufacturing transportation of goods and services and maritime trade at the national regional and global level. The pursuit of higher growth rate implies the need for adequate supply of crude oil and its constituent products such as gasoline liquefied petroleum gas (LPG) kerosene among others for the domestic industrial agricultural and transport sectors of any economy (Onyeabor .2018).

Belgium ($1.45B) Norway ($659M) India ($415M) and United Kingdom ($392M). The fastest growing import markets in Refined Petroleum for Nigeria between 2019 and 2020 were Belgium ($859M) Italy ($265M) and Norway ($102M) (UNCTAD 2022).

The shortage of refining capacity at existing oil refineries is the main driver of Nigeria's fuel crisis which hampers the socio-economic development of the country. It places a high subsidy burden on the government and has long made Nigeria dependent on imported petroleum products (Olusegun, 2020). Nigeria's total import for petroleum products is about $28 billion per annum. Nigeria is the largest producer of crude in Africa and third in the world. Nigeria is the only member country of the Organization of Petroleum Exporting Countries (OPEC) that imports 90 to 95 per cent of refined petroleum product (Okwedy, 2020).

Nigeria Imports of Oil revealed 2615454.321 NGN mn in 2017. This records an increase from the previous number of 2384412.462 NGN mn for 2016. Nigeria Imports: Oil Sector data is updated yearly averaging 4237.350 NGN mn from Dec 1960 to 2017 with 58 observations. The data reached an all-time high of 3064255.925 NGN mn in 2012 and a record low of 22.042 NGN mn in 1966. Nigeria Imports: Oil Sector data remains active status in CEIC and is reported by Central Bank of Nigeria (Ndikom et al., 2017). Data show that the contribution from consumer goods fell from 40% to 27% between 2018-2020 and the proximate determinants of this outcome can be identified. A key factor is the import substitution industrialization pursued with vigour since the late 2000s (Okwedy 2020). This strategy which equated industrialization with development relied mainly on imported. The cost of importing petroleum products of all kinds into Nigeria has soared to over $28 billion on an annual basis Blackgold Energy Authorities an oil and gas consulting and advisory firm has revealed (Ajayi, 2010).

In 2015 the demand for oil was on a higher side to the tone of 98m barrels each day and a projection of 118m barrels daily in 2030. It has also been noticed that the increase in oil prices raises foreign exchange rate within a nation. It is of great opinion that variations in the prices of crude oil are motivated by alterations in the demand for oil. After the period of Breton woods variations in oil prices had strongly influenced changes in exchange rate either to positive (appreciation) or negative (Depreciation) which in Nigerian context has steadily moved on the negative (depreciation). In an oil exporting economy appreciation in real exchange rate exists with the increase in the price of oil and exchange rate depreciates with the decrease in the prices of oil while in importing nation the reverse becomes obvious (Ajayi & Araoye, 2019).

The supply side effect of oil in Nigeria assumes a developmental and significant increase in macroeconomic variables of the economy hence bringing reduction in poverty level and unemployment and increase in the general standard of living. Despite the huge amount that the government asserted that they expended on oil the country has depended more on the importation of petroleum oil thereby pushing the country into demand side of the economy which influenced the depreciation of the Nigerian currency (Yakubu & Akanegbu, 2018).

Non-Oil Import

Non-oil exports are all those commodities excluding crude oil (petroleum products) which are sold in the international market for revenue generation. Nigeria's non-oil exports sector is structured into four broad constituents which are agricultural exports manufactured exports solid mineral exports and services exports (Egbetunde & Obamuyi, 2018). Thus, non-oil export products are unlimited as they include crops

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manufacturing goods solid minerals entertainment and tourism services etc. (Duru et al. 2020). This explains non-oil exports in the context of this study. The world "import" is derived from the word "port" since goods are often shipped via boat to foreign countries. Import is therefore derived from the conceptual meaning as transportation of products and services from one state into the port of another country. The buyer of such goods and services is referred to as an "importer" while the overseas-based seller is referred to as an "exporter" (Idemobi, 2018). Thus an import refers to any good or service brought in from one country to another country in a legitimate fashion typically for use in trade. It is a good that is brought in from another country for sale (Ngige, 2018).

Imported products or services are provided to domestic consumers by foreign producers. An import in the receiving country is considered export in the sending state. A country has demand for an import when domestic quantity demanded exceeds domestic quantity supplied or when the price of the good (or service) on the world market is less than the price on the domestic markets (Yusuf et al., 2019). Duru et al. (2020) defined the non-oil sector of the Nigerian economy as the whole of the economy less oil and gas sub-sector. It covers agriculture industry solid minerals and the services sub-sector including transport communication and distributive trade financial services insurance government etc. This definition is sufficient for the purpose of this study.

Yakubu and Akanegbu (2018) also categorized Nigeria's non-oil trade into four broad constituents namely: agricultural exports; manufactured exports; solid mineral exports; and services exports. These activities have great potentials. Thus, non-oil exports/imports comprise crops and products such as cotton cassava cocoa cashew nuts; solid minerals and chemicals; manufactured goods such as textile tyre machineries; and manpower entertainment and tourism to mention but a few. It is made up of every other thing exported or imported except petroleum products. In other words, non-oil trade in Nigeria comprises of all such products that do not have any affiliation with crude oil or petroleum products this also defines non-oil trade in the context of this study.

Idemobi (2018) defined the non-oil trade of the Nigerian economy as the whole of the economy less the Oil and Gas sub-sector. It covers agriculture industry solid minerals and the services sub-sector including transport communication distributive trade financial services insurance government and others. This definition is also sufficient for the purpose of this study. On the other hand the concept of economic growth like other economic concepts has different definitions by different authors. However according to Oluwaleye (2014) non-oil sector growth is the process whereby the real per capita income of a country increases over a long period of time, and it is measured by the increase in the amount of goods and services produced in a country. The benefits stemming from non-oil sector growth are wide-ranging (Gicheru, 2020).

Cargo Throughputs

Cargo throughput means the volume of cargo handled at the Terminal in the period of one financial year. Port throughput measures reflect the amount of cargo or number of vessels the port handles over time. These measures are affected by many variables beyond physical capacity (UNCTAD 2018).

It is worthy of note that average cargo throughput from 1956 to 2005 is 14467024 metric tons while the average cargo throughput from 2006 to 2012 is 67240231.86 metric tons. The yearly average cargo throughput of 67240231.86 metric tons of cargo from 2006 to 2012 over the yearly average of 14467024 metric tons from 1956 to 2005 shows a percentage increase of 456.69% (Lloyd & Odiegwu 2019). This shows the remarkable progress made in our port developmental efforts since the port concession era. In a nutshell the pattern in Nigerian port traffic during the pre-concession era is sinusoidal while the post concession experienced a sharp progressive rise. This means that between 2006 and 2017 cargo throughput at the nation's ports increased by over 67 per cent. This was as a result of the landlord model of port management which was adopted in 2006 that led to the concession of sections of the ports to private terminal operators otherwise called concessionaires and has led to the consistent improvement in cargo throughput (Odiegwu 2019).

It follows the same pattern as the cargo throughput trend. The trend of cargo throughput follows the same pattern as import trend. It means then that the trend of cargo throughput is greatly determined by the trend of import or inward cargo movement. In a nutshell the pattern in Nigerian port traffic during the pre-concession era is sinusoidal while the post concession experienced a stable and continuous growth as indicated with the blue line. The trend concurs with that witnessed in total cargo throughput which is clear evidence that the

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pattern of Nigeria's port traffic is controlled by imports. During the period 1970-2022 import traffic overwhelmed exports (Odiegwu, 2019).

Cargo throughput is the sum of both the inward and the outward cargo processed by the ports in the given period. There was a slow growth in cargo traffic from 1956 to 1974; and the fall noticeable in-between 1966 and 1970 as a result of the civil war was not enough to utterly obscure the growth trend. The rise in traffic between 1975 and 1979 was significant although the rise began in 1970. The abrupt rise was not preceded by port development sufficient enough to handle the traffic. The result was the 1975-1978 congestion problems which stemmed from the massive importation of cement called 'cement armada' and other construction material for the rehabilitation of infrastructure destroyed by the civil war. Traffic dropped from 20075237 metric tons in 1979 to 17957195 metric tons in 1980 peaked again in 1981 and then suffered serious decline that coincided with the global economic recession. This downward trend can be ascribed to the austerity measures introduced by the then government with the view to revamping the ailing economy. The downward trend continued for about nine years with the total cargo throughput in 1989 falling to 13376187metric tons. The traffic picked up again in 1990 only for a brief period as it fell during the county's political uncertainty of 1992 and 1993. Since 1996 there has been a rapid rise in cargo throughput culminating in an unprecedented volume in 2016 with a slight decline in 2017 (Odiegwu, 2019).

Empirical Review

Effect of International Seaborne Trade on Cargo throughputs

International seaborne trade can be referred to as the exchange of goods services and capital across international borders or territories because there is a need or want of goods or services. Such trade represents a significant share of gross domestic product (GDP) in most countries. International seaborne trade is more of a complex process when compared to that of domestic trade. When trade takes place between two or more nations factors which include government policies currency economy laws judicial system and market influences trade (Odiegwu, 2019). International economic organizations were formed in order to smoothen and justify the process of trade between two or more countries. Example of this international seaborne trade organization is the World Trade Organization. This organizations are aimed at the growth of international seaborne trade (UNCTAD 2021).

Adepoju (2020) examined new seaport development-prospects and challenges: Perspectives from Apapa and Calabar Seaports and found that imports and exports are accounted for in a country's current account in the foreign exchange. International Trading may give consumers and countries the opportunity to be exposed to new markets and products. Almost every kind of product can be found in the international market ranging from food clothes spare parts oil dry bulks wine stocks currencies and water. Services such as tourism banking consulting and transportation. Onyema et al. (2015) conducted a study on comparative analysis of port performance in Nigeria: A study of ports in Rivers State. The study used descriptive statistical tools to analyse the data. The study revealed that international trade is very crucial to the continuance of globalisation. Countries are limited to the goods and services produced within their own borders without international seaborne trade The benefits of international seaborne trade have been the major drivers of growth for the last half of the 20th century.

Also Saeed et al. (2021) did a study exploring the relationships between maritime connectivity international trade and domestic production. With the help of regression analysis, the study found that nations with strong international seaborne trade have become prosperous and have the power to control the world economy. The study further revealed that international seaborne trade can become one of the major contributors to the reduction of poverty. The study asserts that no country in the world can sustain itself or survive without exchanging goods and services with other countries in the world.

Monday et al. (2021) examined cargo throughput performance in eastern ports. The study used correlational analytical tools and found that cargo throughputs of Nigeria depend on her trade with other nations to a large extent. The study further revealed that Nigeria as a developing country has been struggling with realities of developmental process not only politically and socially but also economically too. Ndikom et al. (2017) did an assessment of the relationship among cargo-throughput vessel turnaround time and port revenue in Nigeria: A study of Lagos port complex. Using multiple regression analysis, they found that seaborne trade has made an

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increasingly significant impact on cargo throughputs. They further revealed that the openness of a nation determines a country's growth rate by impacting upon the level of economic activities and facilitating the transfer of resources across borders. Nigeria is an open economy with international transactions contributing a significant proportion to her output.

Munim and Schramm (2018) examined the impacts of port infrastructure and logistics performance on economic growth: The mediating role of seaborne trade. The study used multiple regression analysis and chi-Square statistical tools with the help of Statistical Package for Social Sciences software (SPSS) the study found that international seaborne trade has strong indications of fostering peace and mutual understanding among nations as port cargo throughputs grow tremendously. The study therefore hypothesizes that: Ho_1: Oil exports have no significant effect on cargo throughputs of ports in Nigeria; Ho_2: Non/oil exports have no significant effect on cargo throughputs of ports in Nigeria; Ho_3: Oil imports have no significant effect cargo throughputs of ports in Nigeria and Ho_4: Non-oil imports have no significant effect on cargo throughputs of ports in Nigeria.

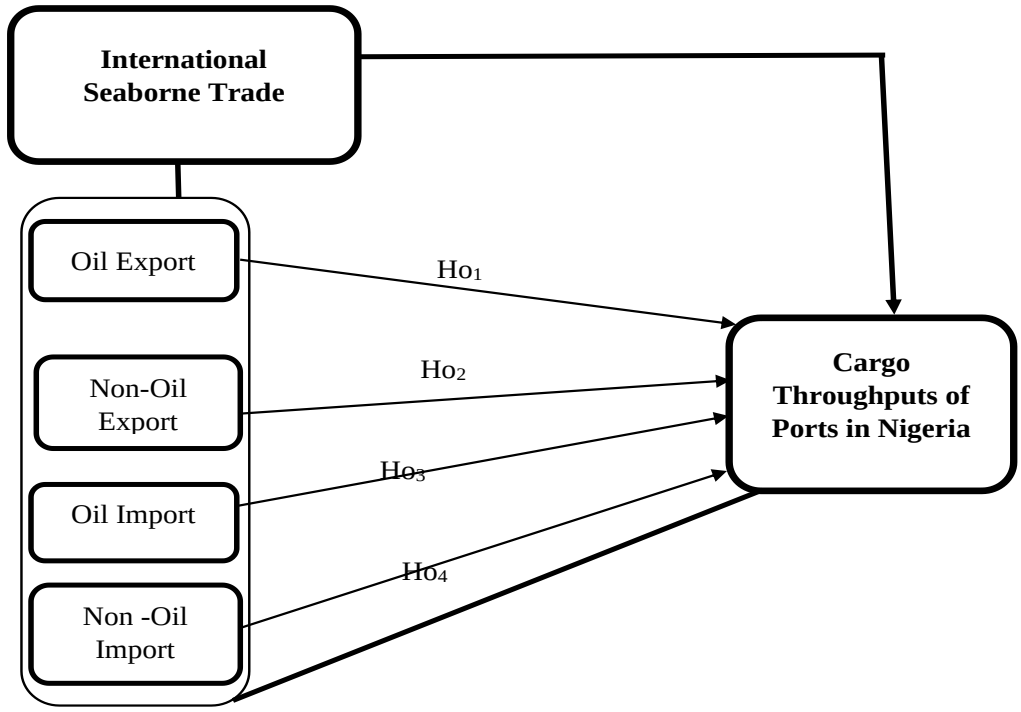

Figure 2: Operationalized Framework of the Effect of International Seaborne Trade on Cargo Throughputs of Ports in Nigeria

Sources: Olusegun (2020); Okwedy (2020); Monday *et al*. (2021); Desk Research (2023).

III. METHODOLOGY

Research Design

Research design is the blueprint that guides the researcher in acquiring and generating necessary data for the study; so, this study adopted the ex-post facto research design which requires the usage of historical data to forecast future trends employing regression techniques. This form of research design is reliable as it provides objective estimates of study variable relationships free from subjective errors; consequently, it was causal study in nature since it was ex-post facto design being a right research design for a study of this nature because the phenomena under examination have already happened and the variables are obtained and analyzed as it was and not subject to control or interference from the researcher. Saeed et al. (2021) explain that it enables researchers to analyze past trends and explain the relationship between the dependent and independent variables.

The study area was on Nigerian ports and six ports in Nigeria. Therefore, the population of the study was six (6) ports. The study was narrowed down to the effect of international seaborne trade and cargo throughputs of

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ports in Nigeria (1981-2022). Secondary sources of data were used as the main data collection sources in which accuracy, availability, adequacy, authority, scope, suitability and sources of data were considered for relevance (Kiabel, 2020). So, the relevant data for this study were collected from the annual reports and accounts of Nigerian Ports Authority, National Bureau of Statistics and Central Bank of Nigeria Annual Statistical Bulletins of the various years in question from their official website. The data collected were from the period of 1981 – 2022.

In this study percentages ratios frequency distribution scaling ranking and other statistical tools were used to analyse and achieve research objectives. Also, regression analysis was used to test the hypotheses formulated in the study. Inferential statistic of **Ordinary Least Squares (OLS) regression was** used to determine the effect of the independent quantitative variables on the dependent variables. All these analyses were computed through the use of statistical package for social sciences (SPSS) IBM SPSS Statistics 26 version.

Model Specification

$$Y_1 = b_o + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + e \text{ ----------(1) \{for testing } H_1\ H_2\ H_3\ H_4\}$$

CTP = f (OE NOE OI NOI)

Where;

CTP = Cargo Throughputs

OE = Oil Exports

NOE = Non-Oil Exports

OI= Oil Imports

NOI = Non-Oil Imports

Statistical Model Specification

This study used cargo throughputs, vessel turnaround time and port productivity to measure the dependent (criterion) variable (port performance) while oil exports, non-oil exports, oil imports and non-oil imports were used as the dimensions or predictor variables of the independent variable (international seaborne trade). The model has therefore been specified thus: $Y = b_o + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + e$; Y = Cargo Throughputs; X_1 = Oil Exports; X_2 = Non-Oil Exports; X_3 = Oil Imports; X_4 = Non-Oil Imports.

b_o = The parameter which represents the intercept b_1 b_2 b_3 b_4 b_2 b_3 b_4 = the regression parameters were used in determining the significance of the effect of each of the independent variables x_1 x_2 x_3 x_4 on the dependent variables Y. e = Random disturbance term. These include the variables which (although not specified) in this model may also affect international seaborne trade and cargo throughputs of ports. They include government policies political instability corruption environmental marketing problems etc. The effects of international seaborne trade on the dependent variables were measured in interval and ratio scaling. The coefficient of determination (R^2) was used to measure the rate at which the independent variable was explained by dependent variables. The a priori expectations for the coefficients are as follows: $\beta_0 > 0$; $\beta_1 > 0$; $\beta_2 > 0$; $\beta_3 > 0$; $\beta_4 > 0$.

IV. RESULTS

Regression Diagnostic Tests

Several underlying diagnostic tests were conducted prior to the estimation to ensure that the basic regression analysis assumptions are not violated. The tests included normality test using the Condition Index, Eigenvalue, Tolerance, for Collinearity diagnostics variance inflation factor (VIF) for collinearity statistics, Durbin Watson test for autocorrelation.

As shown in the results presented in Table 1, with a combination of the entire variables in the 42 observations for the model of study, the condition index of 1.000 shows that there is a perfect multicollinearity of data as the predictor variables are regressed against the dependent variables. Also, the eigenvalue of the dependent variables revealed a value of 4.250 for cargo throughputs, vessel turnaround time and port productivity respectively. While the eigenvalues of the predictor variables are 0.581 for oil export; 0.094 for non-oil export, 0.042 for oil import and 0.033 for non-oil import showing that the model displayed harmonic and normality outcomes. The data in Table 1 also, revealed multicollinearity with the help of the variance inflation factor (VIF) which measures the severity of multicollinearity in regression analysis. The VIF values of the predictor

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variables revealed that oil export is 6.883; non-oil export is 11.999; oil import is 11.673 and non-oil import is 11.194. As the observed VIF values are close to the benchmark of 12, this is an indication of an absence of multicollinearity among the variables, thus there is likely no issue of unstable parameter estimates in the regression line as VIF is a statistical concept that indicates the increase in the variance of a regression coefficient. The Durbin Watson (DW) statistics of 0.539 for cargo throughputs – modal 1; 1.024 for vessel turnaround time – modal 2; 0.170.

Table 2: Multi-Collinearity Diagnostics Analysis of International Seaborne Trade and Cargo Throughputs of Port in Nigeria

Model	Collinearity Diagnostics		Collinearity Statistics		
	Eigenvalue	Condition Index	Tolerance	VIF	Durbin Watson
Cargo Throughputs	4.250	1.000			0.539
Oil Export	0.581	0.584	0.145	6.883	
Non-Oil Export	0.094	6.093	0.083	11.999	
Oil Import	0.042	2.909	0.086	11.673	
Non-Oil Import	0.033	0.908	0.089	11.194	

Source: Secondary Data, 2023, and IBM SPSS Statistics 26 Window Output

Descriptive Statistics of the Dimensions of International Seaborne Trade and Cargo Throughputs

Table 3 shows the descriptive statistical results of the dimensions of international seaborne. trade and cargo throughputs. Table 2 shows the descriptive statistical results of the dimensions of international seaborne. trade and vessel turnaround time.

Table 3: Descriptive Statistics of the Predictor Variables and the Measure – Cargo Throughputs

	Options	Mean	Standard Deviation
1	Cargo Throughput	39623615.047	28852296.019
2	Oil Export	5584251.079	6139876.173
3	Non-Oil Export	481091.168	776963.339
4	Oil Import	1158004.294	1605302.797
5	Non-Oil Import	3706771.183	5038165.338

Source: Secondary Data, 2023, and IBM SPSS Statistics 26 Window Output

Table 3 shows that cargo throughput has the mean and standard deviation scores of 39623615.047±28852296.019; oil export has the mean and standard deviation scores of 5584251.079±6139876.173. The data further revealed that non-oil export has the mean and standard deviation scores of 481091.168±776963.339; oil import has the mean and standard deviation scores of 1158004.294±1605302.797 and non-oil export has the mean and standard deviation scores of 3706771.183±5038165.338.

Statistical Test of Hypotheses and their Interpretations (Multivariate Analysis)

The study has sought in chapter one to determine the extent to which international seaborne trade affects the cargo throughputs of ports in Nigeria. As a result, five research questions and fourteen hypotheses were raised to that effect. The next stage of the study analysis tested the outcomes on the examined dimensions and measures of the variables in terms their effects. Therefore, this section tested and interpreted the hypotheses formulated in this study.

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Effect of International seaborne trade on Cargo Throughputs of Ports in Nigeria

Four hypotheses have earlier been raised to determine the effect of international seaborne trade on cargo throughputs. In line with this objective, the study formulated the following hypotheses: $Ho_{1:}$ Oil export has no significant effect on cargo throughputs of ports in Nigeria. Ho_2: Non-oil export has no significant effect on cargo throughputs of ports in Nigeria.

Ho_3: Oil import has no significant effect cargo throughputs of ports in Nigeria.

Ho_4: Non-oil import has no significant effect on cargo throughputs of ports in Nigeria.

The data in Table 4.5 has been used to present and test hypotheses one, two, three and four in this study.

Table 4 above shows the results of the test of hypothesized statements - H_1, H_2, H_3 and H_4. The result of the hypothesis 1 tested, show positive significant on cargo throughputs with t- value outcome of 8.079 @ p0.000 < 0.05, meaning that oil export has positive effect which is also significant on cargo throughputs, indicating that the null hypothesis 1(Ho_1) has been rejected and alternate hypothesis 1(H_{i1}) accepted hence – "Oil export has positive and significant effect on cargo throughputs of ports in Nigeria". The result of hypothesis 2 (H_2) revealed negative and significant effect of non-oil export on cargo throughputs with t- value outcome of t = -2.869 @ p0.007<0.05. By this result the null hypothesis 2(H_{02}) has been rejected and alternate hypothesis 2(Hi_2) accepted hence – "non-oil export has a significant and negative effect on cargo throughputs of ports in Nigeria". With respect to hypothesis 3 (H_3), the result in Table 3 revealed negative and insignificant effect of oil import on cargo throughputs with t-value outcome of -1.485@ p0.146>0.05, therefore, the null hypothesis 3 (H_{03}) has been accepted and alternate hypothesis 3(Hi_3) rejected hence – "Oil import has negative and insignificant effect on cargo throughputs of ports in Nigeria". In the case of Non-oil import and cargo throughputs which is hypothesis 4 (H_4), the result of the hypothesis 4 (H_4) tested, show positive and significant effect of non-oil import on cargo throughputs with t- value outcome of 4.059 @ p0.000 < 0.05, denoting that non-oil import has a positive and significant effect on cargo throughputs, therefore, the alternate hypothesis 4 (Hi_4) has been accepted and null hypothesis 4(H_{04}) rejected hence – "Non-oil import has positive and significant effect on cargo throughputs of ports in Nigeria".

Table 4: Results of International Seaborne Trade (IST) and Cargo Throughputs (CTP)

International seaborne trade (Independent Variables)	Unstandardized Coefficients		Standardized Coefficients	t - value	Significant/ Probability Value	Decision
	B	Std. Error	Beta			
(Constant)	130340.	19310 15.		6.750	0.000	
Oil export (H_1)	4.718	.584	1.004	8.079	0.000	Significant
Non-oil export (H_2)	-17.483	6.09	-0.471	-2.869	0.007	Significant
Oil import (H_3)	-4.319	2.90	-0.240	-1.485	0.146	Insignificant
Non-oil import (H_4)	3.684	0.90	0.643	4.059	0.000	Significant

Source: Secondary Data, 2023, and IBM SPSS Statistics 26 Window Output (Appendix I)

a. Dependent Variable: Cargo throughputs

b. Predictors: (Constant), Non-oil import, Oil import, Oil export, Non - oil export

$$Y_1 = b_o + b_1x_1 + b_2x_2 + b_3x_3 + b_4x_4 + e \text{ ----------(1) \{for testing } H_1, H_2, H_3, H_4\}$$

Y_1(Cargo throughputs) = 4.718+4.718OE -17.483NOE -4.319OI +3.684NOI +e

t = (8.079) (-2.869) (-1.485) (4.059)

From the inferential statistical analysis so far, it has been revealed that:

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1. Oil export as a dimension of international seaborne trade has a positive and significant effect on cargo throughputs of ports. This simply means that oil export as an international seaborne trade instrument influences cargo throughputs of ports in Nigeria.

2. Non-oil export as a dimension of international seaborne trade has negative and significant effect on cargo throughputs. This simply means that non-oil export as a dimension of international seaborne trade negatively and significantly influences cargo throughputs of ports in Nigeria.

3. Oil import as a dimension of international seaborne trade has negative and insignificant effect on cargo throughputs of ports. This simply means that oil import contributes negatively and insignificantly to cargo throughputs as a measure of port performance in Nigeria.

4. Non-oil import as a dimension of international seaborne trade has a positive and significant effect on cargo throughputs of ports. This simply means that non-oil import as an instrument for international seaborne trade influences cargo throughputs of ports positively and significantly in Nigeria.

Table 5 has revealed in summary the rejection and acceptance of the hypotheses as follows: Hi_1: Oil export has significant effect on cargo throughputs of ports in Nigeria; Hi_2: Non-oil export has a significant effect on cargo throughputs of ports in Nigeria; Ho_3: Oil import has no significant effect cargo throughputs of ports in Nigeria; Hi_4: Non-oil import has significant effect on cargo throughputs of ports in Nigeria.

Table 5: Summary of the Results on Test of the Research Hypotheses

Research Hypotheses	t- value	Significant/ Probability Value	Result	Decision
Ho_1: Oil export has significant effect on cargo throughputs of ports in Nigeria	8.079	0.000	Positive and Significant effect	Reject
Ho_2: Non-oil export has a negative significant effect on cargo throughputs of ports in Nigeria	-2.869	0.007	Negative and Significant effect	Reject
Ho_3: Oil import has no significant effect cargo throughputs of ports in Nigeria	-1.485	0.146	Negative and Insignificant effect	Accept
Ho_4: Non-oil import has positive and significant effect on cargo throughputs of ports in Nigeria	4.059	0.000	Positive and Significant effect	Reject

Source: Research Data 2023, and IBM SPSS Statistics 26 Window Output

V. DISCUSSION

Effect of International Seaborne Trade on Cargo Throughputs of Ports in Nigeria

The findings connected with the effect of international seaborne trade on cargo throughputs of ports in Nigeria revealed that oil export, non-oil export, oil import, and non-oil import are some of the avenues being used to conduct international seaborne trade activities that affect cargo throughputs of ports in Nigeria. A critical appraisal of the finding reveals that oil export has positive and significant effect on cargo throughputs (t = 8.079); non-oil export has a significant but negative effect on cargo throughputs of ports in Nigeria (t = -2.869); oil import has no significant effect cargo throughputs of ports in Nigeria (t = -1.485) and non-oil import has significant effect on cargo throughputs of ports in Nigeria (t = 4.059). The full imports of these findings are that oil export and non–oil import have positive and significant effect on cargo throughputs, non-oil export has negative but significant impact on cargo throughputs while oil import has negative and insignificant effect on cargo throughputs. These findings agree with the works of Monday et al. (2021) who examined cargo throughput performance in eastern ports and found that cargo throughputs of Nigeria depend on her trade

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with other nations to a large extent. The study further revealed that Nigeria as a developing country has been struggling with realities of developmental process not only politically and socially but also economically too.

Oil exports make great hubs for port's other international seaborne trade efforts, as they can be integrated with nearly every other tool or platform to engage in seaborne trade that has global orientation. Every port with facilities to engage in oil export has high prospect for effective seaborne trade. Bensassi et al. (2019) found that labour quality has a positive and significant effect on RGDP in line with theory of international trade. Omodero and Alpheaus (2019) also revealed that foreign debt exerts a significant negative influence on economic growth because unfavourable balance of trade payment while foreign debt servicing has a strong and significant positive impact on economic growth.

The study additionally found that oil export and non oi export offer veritable opportunities to optimize international seaborne trade efficiency as it helps to build cargo throughputs and vessel turnaround time as well as productivity of ports in Nigeria. This has been corroborated by Ndikom et al. (2017) who did an assessment of the relationship among cargo-throughput vessel turnaround time and port revenue in Nigeria and found that seaborne trade has made an increasingly significant impact on cargo throughputs. They further revealed that the openness of a nation determines a country's growth rate by impacting upon the level of economic activities and facilitating the transfer of resources across borders. Nigeria is an open economy with international transactions contributing a significant proportion to her output. The implication of this finding is that ports successfully use oil exports to identify the processes and procedures to locate, qualify and ultimately secure the business of their strategic business partners for effective and efficient performance in stakeholders' outcome.

VI. CONCLUSION

International seaborne trade is a pivotal avenue for the movement of merchandise by vessels between the port of origin where merchandise is received from the exporter at the port of origin to the port of destination where merchandise is claimed by the importer. It has the ability to impact on the cargo throughputs of ports in Nigeria and other businesses when conducted effectively and efficiently within the realms of best international trade practices. Based on the findings of the study, the following conclusions have been made:

1. Oil export has positive and significant effect on cargo throughputs of ports in Nigeria (t-value = 8.079@ p0.000<0.05).
2. Non-oil export has a negative and significant effect on cargo throughputs of ports in Nigeria (t = -2.869 @ p0.007<0.05).
3. Oil import has negative and insignificant effect on cargo throughputs of ports in Nigeria (t-value = -1.485 @ p0.146>0.05).
4. Non-oil import has positive and significant effect on cargo throughputs of ports in Nigeria (4.059@ p0.000<0.05).

VII. RECOMMENDATIONS

Based on the findings and conclusions of this study, the following recommendations were made:

1. Nigerian ports should encourage the export of non-oil products by putting up facilities, infrastructures and conducive environment as cargo throughputs is significantly increased for optimal performance of seaports in Nigeria.
2. Nigerian ports should order for and monitor appropriately the effective and efficient importation of oil that calls for rationalization of oil resources in the country as this would encourage the full capacity and necessary use of internal refineries towards increasing the cargo throughputs that optimize the cargo throughputs of ports in Nigeria.

3 Nigerian ports should justify the tendency of supporting non-oil impot by putting up conducive environment that validates the activities of international seaborne borne trade as cargo throughputs is significantly increased for optimal performance of seaports in Nigeria.

5. Government and the port authorities should ward off compromise of all forms and make the domestic refineries functional as well as promote local methods of oil refining and reward domestic innovation so that oil

import that has no positive effect on the cargo throughputs of ports and by extension Nigerian economy could be stopped or reduced drastically.

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