CHAPTER ONE

1.0 Introduction

1.1 Background to the Study

The world today has grown to an extent where exchange has become a normal day to day activity, be it exchange for money, knowledge, ideas, technology, products etc. Each of this exchange we engage in has its effect, this effect can either be positive or negative. Trade can be seen as one of the economic activities which engage in exchange. Trade can be defined as the buying and selling of goods and services. Trade system continue to advance as the world advances. Trade can be traced down to the barter system, where goods are being exchanged for goods, which then advance to the monetary system of trade.

Economic growth can be presumed as the main target of every economy, be it a developed nation or developing nation. One of the primary aims of every nation is focusing on development and growth, one can deduce that no nation is tired of development or satisfied with their present level of development as they all want to achieve more and trade is one of the prerequisite to achieve more growth.

Trade is actively a large contributor to the growth of every economy, even before the existence of international trade, domestic trade was still a contributor to the growth of the economy as it is developing the economy in its own small way, with their own local products. Trade being attached to the largest contributors to the national GDP that is the consumption aspect of the GDP, consumption cannot exist without trade, for consumption to take place in a nation there has to be an exchange of goods and services and this is what makes up trade. Trade

in that way has made its way to the top as one of the largest revenue generators for the economy. In the 21st century the world has become a global village where international trade has become a large contributor to the growth of every economy as each nation takes part in the exchange of goods and services.

International trade can be defined as the trade between 2 or more countries, it is the exchange of capital, goods and services between countries according to introductory economics (micro and macro) text book. International trade goes beyond the normal buying and selling of goods and services it also aims at making profit as a way of generating revenue for the nation, International trade helps in the solving of national macroeconomic problems like unemployment; the more a country engages in international trade of goods and services (exporting) the more employment opportunities are made available. It allows a country or nation to expand her markets for both goods and services that otherwise may not have been available to her citizens. It also helps to build close relationship between nations.

International trade has been one (1) of the major contributors to economic growth and civilization worldwide, international trade has helped in development of the relationship between various nations in a way creating world peace through forming of various unions, and associations such as OPEC, West Africa Union, North Atlantic treaty Organization (NATO), has helped in the development of unity between associated countries. In ancient times, international trade has to do with the exchange of raw materials and other products with other lands and nations, the trade between nations develops a relationship between our leaders and the foreign trader. This is also one of the factors that contributes to Nigeria's relationship with foreign traders. This helps in the increase of civilization across the world.

International trade has always been of great importance from the very beginning not just from its revenue gain but also in its cultural inter-change. International trade has helped various countries tolerate, understand and respect each other's culture. It has also promoted the learning of various means of communicating (various languages), also in the area of exchange of goods and services, international trade has helped in the spread of goods and services, which has helped in the improvement of economic growth word wide.

Economics have always had a large interest on the trade system of a nation because of its contribution to the nation and how well it can be developed. They have been a general believe that the larger a nations trade participation rate the larger their economic growth.

1.2 Statement of the Problem

Nigeria's export performance has fallen drastically over the years due to its lack of development in export products and its over dependence on foreign products and its lack of diversification has prevented it from exploring opportunities from other sectors. Nigeria's over dependence on foreign products has reduced its production of such goods in home country as a result of discouragement among infant industries which causes them to limit their production of such goods knowing fully well that the demand for their product will be less compared to that of the foreign producers and they will be at loss.

For the last 2 decades Nigeria has been experiencing deficit balance of trade. The focus of the government on crude oil exports led to the neglect of the agricultural sector; hence, reducing the overall productivity of the economy according to Abebefe (1995). Adenugba and Dipo (2013) in their research evaluated the performance of oil and non-oil exporting sector for

29 years (1981-2010) and concluded that they are performing below the given expectation at which they aim to achieve giving another reason to the flaws of Nigeria exporting sectors.

Nigeria is a foremost exporter of domestic goods, and an importer of secondary products, which is a major disadvantage because Nigeria loses more during its trade transactions. Secondary products also have a higher value and therefore cost more in the international market than primary products. Nigeria is still a major exporter of domestic products due to its low technological advancement. Nigeria does not have the required technology used for the processing of such goods; therefore, this has made it a major exporter of primary products.

Nigeria foreign trade can be classified into 2 major groups: oil sector and the non-oil sector, Nigeria has a high level over dependence on its oil sector and this has reduced the rate of investment on the other sectors of the economy which are the non-oil sector of the economy. Nigeria's major revenue grantor has been the oil sector since its discovery in the 1970's, and most of its effort on the enhancement of its international trade sector are mostly done on the oil sector, leaving the other sectors with less investment plan. This being a major problem due to the fact that Nigeria exports raw materials and import processed goods which causes more loss from buying than what it gains from selling, this does not only affect the oil sector of the economy but also every other sector.

It is therefore essential to evaluate the impact of international trade on Nigeria's economic growth, how the overdependence on the oil sector has affected the economy and also how technological advancement can promote the economy.

1.3 Research Questions

The following questions are to be answered by this research study:

I. What effect does exportation goods have on Nigeria economic growth?

II. What effect does importation of goods have on Nigeria economic growth?

III. What contribution does international trade have on Nigeria economic growth ?

1.4 Objectives of the Study

The broad objective of this study is to examine the impact of international trade on Nigeria's economic growth. The Other specific objectives are to;

I. Examine the effect of Nigeria exportation of goods and services on its economic growth

II. Examine the effect of Nigeria Importation of goods and services on its economic growth

III. Examine the impact of international on economic growth in Nigeria.

1.5 Research hypothesis

H_{01}= International trade does not contribute to economic growth in Nigeria.

H_{02}= Import in international trade has a negative impact on Nigeria economic growth.

H_{03}= Export in Nigeria international trade has a positive impact on economic growth.

1.6 significance of the study

This study covers numerous aspects of contributions to economic growth, though our primary focus in this study will be to examine the effect of international trade on economic growth in Nigeria. This study intends to go deeply into how the high concentration of trading primary commodities, the over dependence on oil sector and low technological growth has

affected the economy in having a higher growth rate in its trading sector and its contributions to economic growth.

This research will be essential for policy makers and other exporting industries in Nigeria to help them know about the foreign trade performance in Nigeria and how it affects the economic growth of the nation. It will also provide a review on previous researches that have been done. It can also be useful to researchers for further study on Nigeria's international trade. This research will cover a period of 30 years (1990-2019), 2020 being excluded because there was a global economic meltdown.

1.7 Scope of the study

This research studies covers a period of 30 years (1990-2019), 2020 being excluded because there was a global economic meltdown due to the outbreak of covid-19 virus. The economic meltdown does not affect the national policies guiding trade affairs. This research is limited to Nigeria import and export as its affect the economic growth of the nation.

CHAPTER TWO

LITERATURE REVIEW

In this chapter we would be looking at the conceptual, theoretical and empirical review on international trade and its effect on economic growth. This chapter is sub-divided into three main sections, the conceptual review, theoretical review and empirical studies.

2.1 CONCEPTUAL REVIEW

2.1.1 International trade

International trade can be defined as the exchange of goods and services between two countries. **Samulson and Nordhaus** in 2002 define international trade as a system through which, nations import and export goods, services and capital, they identify 2 major differences between the two major types of trade (domestic and international)

I. Expanded trading opportunities
II. Sovereign nations
III. Exchange rate

In other to understand the international trade system of a nation its government keep track of all its international trade activities in its balance of payment account.

2.1.2 Exchange Controls

Exchange control are limitations imposed by government on the sales and purchase of curries. This control allows a country a country to stabilize their economy in a better way by limiting the inflow and outflow of currency, which can cause exchange rate volatility (will Kenton), countries normally introduce capital control, to limit the level of foreign investment.

Exchange control is an important factor to use to control international trade underemployments, its major aim is to create equilibrium between a country's payment and receipts in international trade.

2.1.3 Balance of payment and balance of trade

2.1.3.1 Balance of payment (BOP)

Balance of payment is the systematized record of all monetary transactions made between residents of a country and other parts of the world in an accounting year balance of payment is a way of keeping records of a country receipts and payment in international transaction with the rest of the world (Aybo Elias Igwebake 2018)

2.1.3.2 Balance of trade (BOT)

Balance of trade can be defined has the difference between the value of goods and services bought and sold by residence of an economy or it can be defined has the difference between a country export and import. The value of goods and services exported minus (-) the value of goods and services imported. When a country exported equals to its import, we say we have an equilibrium balance pf trade. When a country import is greater than its export, we have a

deficit balance of trade. When a country export is greater than its import, we have a favorable balance of trade.

2.1.4 Terms of trade

Terms of trade (TOT) can be define has the ratio between an economy's exporting price to its importing price (Carol M.kopp), It can be defined has the rate of exchange of one country's good to another country (Jhingan 2012). It measures the purchasing power with reference to its import, it implies the relation between export and import prices of goods.

2.1.5 Benefits of trade openness

I. Raise revenue for government

with international trade being one of the largest contributors to the national GDP of most developing countries. It has been a major source of revenue to the government making a contribution of at least 60% of government total revenue, and with high level of revenue government will be able to meet up with its high level of economic growth. With an higher level of balance of trade there will be a greater amount of revenue gotten by government and with that government will be able to meet up with its macroeconomic growth, which can lead to a higher level of economic development. Revenue can use be used to enhance other factor of the economy that can be used to generate a higher level of revenue for economic growth.

II. To diversify the economy

Many underdeveloped countries depend high on the production of raw materials of which they have comparative advantage over. to increase the amount of goods and services available for consumption trade openness is best advice. Also, through the importation of

various kind of goods the economy can learn how to produce such goods increasing the amount of goods available for its own trade and benefit.

III. exchange of goods

trade openness helps less developed countries to exchange its primary commodities for capital goods. Through international trade countries can are chanced to exchange their locally made goods for other capital goods such as machinery, capital goods, finished products etc. with the capital goods being use in exchange such goods can be used to enhance economic development and production activity. the larger the export the more capital goods and finished product being received and the higher the level of economic development.

2.1.6 Disadvantages of trade openness

I. Disagreement from infant industries

Most developing countries have up-coming industries that are still trying to find their ground in the market system. Such industries see the international trade system has a threat to their existence base on the fact that they produce their goods on a low cost and can therefore sell at a lower price than the infant industries causing a higher demand for foreign products than locally made goods. to protect their stand in the market infant-industries try to discourage trade openness in an economy.

II. Help in protection against dumping

Dumping takes place when a country that has excess stock sells below cost on global market leading to other producers becoming unprofitable (Tejvan Pettinger 2016).

This can put producer in other country out of business cause a fall in national GNP.

III. Balance of payment

A reduction in import helps the current account. A reduction in import with an increase in export will balance of trade leading to a favorable balance of payment. Earning the government more revenue.

IV. Dependence on foreign products

When an economy get overfamiliar with the exporting of certain goods and services it dependence highly on other countries to meet up with its demand for such products and when such demands cannot be meet the country is left to rely the amount which is being supplied, and this can limit its growth and development.

2.2 **THEORETICAL REVIEW**

2.2.1 Theory of comparative advantage

Ricardo's theory on international trade is a form of further refinement of smith model. He argued that even if the countries did not have absolute advantage in any line of production over the other countries, international trade would be gainful.

The theory of comparative advantage states that a country should only engage or concentrate on the production of those goods in which it has a greater relative advantage over its trading partners. The country then sells the surplus to other country that in their turn channel resources towards those industries in which their deficiency is least (Dereck 1974). The law is however, an extension of the absolute advantages paradigm in industry.

According to David Ricardo "…. A nation, like a person, gains from the trade by exporting the goods or services in which it has its greatest comparative advantage in productivity and importing those in which it has the least comparative advantage". Ricardo assume that one (1) country has the absolute advantage over the other country in both line of production. It means the other country has absolute disadvantage in both the lines of production. In terms of relative advantage, he assumes the first country has a greater comparative advantage in one line of production compared with the other country and the second country has a smaller comparative disadvantage in the second line of production compared with the first line of production. One country's comparative advantage is greater in one line of production and other country's relative disadvantage is smaller in the other line of production. If trade is established between these two countries it would bring both production and consumption gains.

The theory advice that an economy should focus in the production and exporting of goods which it has a higher comparative advantage or a less comparative disadvantage. The only a country can minimize its production and increase economic welfare.

2.2.2 Theory of Reciprocal Demand

The theory of reciprocal demand was developed has a result of David Ricardo failure in his theory of comparative advantage which lead to the formation of J.S Mill theory of Reciprocal demand in 1848. The Ricardian theory failure to determine the exact rate of international exchange between the two (2) countries was on account of an excessive emphasis upon the supply aspect and a complete neglect of demand aspect.

Reciprocal demand refers to the intensity of demand for the product of one (1) country in the other country.

According to J.S Mill the actual ratio at which commodities are transacted between two (2) countries depends crucially upon the elasticity and strength of each country's demand for the product of the other or the reciprocal demand. Equilibrium at the ratio of exchange between two (2) countries means that quantity of the 2 commodities exported by a country should be sufficient enough to pay for the quantity imported by that country.

2.2.3 Haberler's theory of opportunity cost

Heberler developed his theory using labor and capital in terms of opportunity cost in 1936. Gottfried Heberler attempted to rephrase the David Ricardo theory of comparative cost in terms of opportunity cost. He showed that the theory of comparative cost can still be useful/valid even if the labor theory of value is jettison. The theory determines the cost of producing a commodity in terms of alternative production that has to be forgone for producing the commodity in question.

He assumed production possibility sets of countries to be convex and uses opportunity cost or marginal rates of substitution between goods along the boundaries or frontiers or transformation curves. the opportunity cost is what have been given up in order to have some quantity of another thing. A decrease in the 2^{nd} commodity for an increase in the first is the opportunity cost. I.e. an economy produces 2 commodities X and y, for an increase in the production y such an economy will have to substitute some of his production of x.

2.2.4 The Classical theory

the classical economist where primarily focused towards economic growth their main focus was on wealth of nations and how it increased, in explaining this increase division of labor and specialization were highly considered.

Adam Smith in his theory explained a large number of outputs could be produced when there is specialization in labor. Although the extent of specialization and division of labor in an economy depends on the size of the market. A large market would encourage a large degree of specialization and division of labor.

The classical theory primary aim was to provide guidance on questions of national policy. This included significant descriptive analysis of economic process, the selection of occurrences to be reviewed and problems to be examined was made with allusion to current issues of public interest.

When it comes to international trade the classical economist focuses on answering 2 major questions:

1. In the production of what product should a country specialize or which good will a country export and which good will it import.
2. Once different countries produce different goods: what will the ratio of exchange between two goods be?

They gave the answers to these questions to be:

1. Each country should specialize in the production of goods which is favorable with its climate conditions, qualities of soil texture, natural resources, of the acquired and innate capacities of its people, plants, equipment and means of transportation. Each of such goods, such countries should produce more of such goods, for its

consumption and its sales to other countries who have less relative advantage over the production of such goods.

2. The classical theory of trade is built on the labor cost theory of value the theory states, that goods are exchange to the comparative amounts of labor incorporated in them. Goods which have equal prices embody, equal amount of labor. The exchange ratio or prices are majorly determined by reciprocal labor costs, through their effect upon demand and supply.

2.3 Trade openness, Primary commodity and economic growth

An open economy can be defined has an economy were not only domestic goods and services are bought and sold but also engage in the buying and selling of goods with other countries.

2.3.1 Primary commodities dependence

A large number of countries, mostly in developing countries depend highly on revenue from primary commodity- dependent developing countries (CDDCs) derived at least 60% of their total export earnings from primary commodities (Janvier D. Nkurunziza, Komi Tsowou, Sofia Cazzaniga 2017)

Some empirical studies have defined trade openness has the ratio or contribution of trade to the national GDP, one of the major problems of most empirical studies is based on the fact that it does not capture the major effect of trade on the economy from both the supply and

demand side. Trade account for a larger part of the GDP of a smaller country than a larger country (Olayami David). A smaller country may be open in practice in the face of various policy distortion.

Some studies have shown that trade openness increases a country economic growth through an increase in productivity, access to new levels of technology, access to various source of information, increase in FDI (foreign direct investment)) etc.

Developing economy with high level of national resources tents to engage more in the trading of primary commodities, in the international market such an economy has not gotten into the international market system but tariffs has a major benefit to international trade (Birdshall and Hamoudi 2002). While developed countries which engages in international trade have a higher level of FDI which can lead to a higher level of growth and development.

2.3.2 Economy of Nigeria (Wikipedia)

Nigeria economy is a middle-class economy system which engage in a mixed economy system, Nigeria has a developing market system, expending manufacturing sector. It is the 27th largest economy in terms of nominal GDP worldwide and 24th largest in purchasing power. Nigeria was Africa largest economy has at 2013.

Nigeria oil sector is its main source of revenue contributing to 2/3 of its state revenue. Nigeria supplies 2.7% of the total word oil supply. Nigeria has a growing agricultural sector which is yet to keep up with the rate of the fast-growing population to meet up with the demand for food/agriculture product, Nigeria has now import some of its food products, has a way of moving towards food sufficiency.

Agricultural sector

Nigeria rank first (1^{st}) in Africa and 6^{th} worldwide in agricultural output , it account for about 18% of national GDP and 1/3 (one third) of employment due to the local consumer boom Nigeria is no longer a major exporter, though it's still a major producer of various agricultural productor like groundnuts, palm oil, rubber, coconut etc.

Oil

Nigeria joined OPEC (organization of petroleum exporting countries). Nigeria export 4 major types of crude oil: qua ibo crude oil, forcadoes crude oil, bonny light oil, brass river crude oil. Some of the major problems faced by the Nigeria oil sector, mostly the Niger Delta, include:

I. Poor relationship with indigenous communities
II. Vandalism of oil plants
III. Damage to ecosystem
IV. Security problem

The Niger Delta development commission (NDDC), been created to help accelerate economic and social development in the region.

Nigeria's largest trading partner is the United Kingdom US is Nigeria's largest buyer, being accounted for 40% of Nigeria's oil export

Mining

The mining sector of Nigeria only account for 0.3% of its GDP, Nigeria has an underdeveloped mining industry and this has led to Nigeria importing some goods which it can produce locally i.e. salt, iron ore etc. mineral resources ownerships right is detained by the federal government. During the 1940s Nigeria was one (1) of the major producers of columbite,

coal and tin. The discovering of oil in 1956 affected the mining sector, has government and industries focused more on the oil sector.

Foreign economic relations

Nigeria foreign economic relation is based majority on its part of supplying the world economy with natural gas and oil.

2.3.3 Nigeria international trade

Nigeria's international trade goes back to the 1900s, Nigeria has always been engaged in international trade even before her independence the main difference between now and then is who control the trade system. Even after independence Nigeria trade was under a command system controlled by the military, present day Nigeria trade is been controlled by both the public and private sector of the economy.

In the 1960's Nigeria agricultural sector was its major exporting sector. Nigeria exported commodities like palm produces, ground nut, cotton and cocoa. By 1978 Nigeria agricultural export value was N100 million (CBN statistical bulletin volume 30). The export of agricultural products have decrease drastically after the discovery of oil in Oloibiri in the present day Delta State in the year 1974, with this the Nigeria exporting value increased to N758.99million and N8.132million in 1970 and 1978 respectively, rising to N124, 162.7million in 1 and N681, 728.3million in 1987. With Nigeria being the 6th largest producer of crude oil in the organization of petroleum exporting countries (OPEC). Although this led to Nigeria losing its position has one of the biggest producers and exporter of palm oil produce, groundnut, cocoa and rubber (CBN annual report, 2006). Between 1960 and 1980 Nigeria agricultural sector accounted for an average of 60% of its total export which is now taken over by the oil sector of the

economy (CBN annual report 2004). Nigeria export performance has dropped in recent years due to its lack of technical development and also there have been a decrease in the earnings from international trade due to the reduction in the demand for oil products has the world develop more sources of energy are been found e.g. solar energy, with this and the lack of technology development Nigeria is going backwards in its international, with all this problem set Nigeria is switching back to agriculture sector has its main exporting commodities.

2.3.4 Problem of trade expansion in Nigeria

I. Over dependence on oil sector

Since the discovery of oil in Nigeria in the year 1970, Nigeria have had a very high dependence on the oil sector, which has been its major source of revenue. Due to the high rate of demand for oil in the 1900's Nigeria was able to gain a high level of revenue from the oil sector causing her to neglect other sector of the economy, paying less or no attention to the other sectors. The high income or revenue being gotten from the oil sector increase the interest of its citizens on oil business making them abandon other sector such as agriculture, this caused an increase in the gap between the rich and the poor has only the rich could engage on oil mining.

II. Primary commodities dependence

Nigeria being a developing nation is known for her exportation of primary commodities. Due to Nigeria's low level of technological advancement, Nigeria is not able to process most of her natural resource, so Nigeria engage in the exporting of raw materials rather than finished product, the result to receiving a lower level of revenue and spending more while importing finished products. The exportation of only primary products limits the trade expansion of the nation cause only countries with the need to such raw materials

would demand for it and countries who have the technological requirement to also process such goods

III. Over dependence on foreign product

Nigeria has a high dependence on forging products, causing her to import more than she exports leading to a deficit balance of trade. less revenue is gotten from international trade and more is spending on importation than exportation. Due to the high demand or preference of foreign products local industries are being put out of business, because of the minimal level of demand of their products, and no business want to continue if it only makes loss, leading to a low expansion of its trade system. With no industries producing and no one willing to go into production because of fear to make loss, there will be a low level of exportation in the country.

CHAPTER THREE

Research Methodology

This chapter focus specifically on the methodology used in carrying out this research. It covers the research design, model specification, a prior expectation, sources of data and method of data analysis.

3.1 Research design

This study focuses on the effect of international trade on the economic growth of Nigeria using an annual time series data of 1970-2019. This chapter focus on the methodology use in the course of research using a time series data. For years there have been various arguments for and against trade openness. Using the OLS (ordinary least square) method, we would estimate if trade openness has a negative or positive effect on Nigeria economy.

3.2 Theoretical framework

There are many theories which covers international trade by different scholars at various point in time. The theories guiding this study are Comparative advantage by David Ricardo (1817) and the theories of reciprocal demand by J.S Mill.

Theory of Comparative Cost Advantage

The theory of comparative advantage states that a country should only engage in the production of those goods in which it has a greater relative advantage over its trading partners. The theory of comparative advantage is an extension of the theory absolute advantage. This theory states that a country will have a more gain from trade if it trades with countries which has a less comparative advantage in the production of goods in which it produces. If such theory is being put in place a country will be able to produce goods with its abundant resources in buck, have enough to provide for that need of it citizen and still have enough to sell to other countries of a lower price (compared to if such country with low comparative is to produce such goods), they will know that there cost will be higher and will rather buy such goods from foreign countries and this will lead to an high demand of such goods from producing country and more gain

Theory of reciprocal demand

The theory of reciprocal demand states that for the exchange between two countries means that quantity of the two commodities exported by a country should be sufficient enough to pay for the quantity imported by that country. The theory of reciprocal demand is an extension of Ricardo's theory of comparative cost, as it made the theory determinate by stating the conditions for its equilibrium terms of trade. It gives a limit to the extent at which international trade can take place. This theory helps to set limits of a countries international trade

to make sure that a country gains more than it losses during it trade process. Although most countries have defiled this economic theory where country spend more while importing than it gains while exporting some even acquire loan just to pay for this good demanded for i.e. Nigeria

3.3 Model Specification

Model specification is used to express the mathematical relationship between the dependent variable of a model and its independent variable. International trade is one of the major factors that drives economic growth, on this note, the relationship between international trade and economic growth in Nigeria can argued for.

This model will be used to examine the relationship between Nigeria import and economic, Nigeria export and economic growth.

The OLS form for the model specification.

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \mu$$

Y= dependent variable

β_0= intercept

β_1= coefficient of X_1

β_2= coefficient of X_2

β_3= coefficient of X_3

β_4= coefficient of X_4

β_5= coefficient of X_5

μ= error term

Functional equation

RGDP= f (X, TC, TOP, ER) …1

RGDP- real gross domestic product

X-value of export

TC- technological changes

TOP- degree of trade openness

ER- exchange rate

Mathematical equation

$$RGDP = \beta_0 + \beta_1 X + \beta_3 TC + \beta_4 TOP + \beta_5 ER \quad \ldots.2$$

The above model expressed in linear form equals

$$logRGDP = \beta_0 + \beta_1 logX + \beta_3 logTC + \beta_4 logTOP + \beta_5 logER + \mu \quad \ldots.3$$

Functional equation

RGDP= f(M+TOP+ER) ...4

M- value of import

TOP- degree of trade openness

ER- exchange rate

Mathematical equation

$$RGDP = \beta_0 + \beta_1 M + \beta_2 TOP + \beta_3 ER \quad \ldots 5$$

The above model expressed in linear form equals

$$logRGDP = \beta_0 + \beta_1 logM + \beta_2 logTOP + \beta_3 logER + \mu \ \ldots 6$$

3.3.1 Units of measurements

GDP values is in billions/naira

The value for import is in billion/naira

The value for export is in billion/naira

The value for exchange rate is dollar per naira

The value for degree of trade openness is ratio of GDP to total trade

3.4 A prior expectation

From a view of a prior expiation a positive relationship in real GDP when our NX (net export) (export – import) being positive, with a positive relation to TOP, TC alongside a reduction in exchange rate. When RGDP is increasing there tends to be an increasing level of export (John Sylvester afaha, njoso, bibiana oluchukwa 2012).

$$\partial(GDP)/\partial(X) > 0$$

$$\partial(GDP)/\partial(M) > 0$$

$$\partial(GDP)/\partial(TC) > 0$$

$$\partial(GDP)/\partial(ER) > 0$$

But on the other hand if there is an increase in exchange rate (in favor of foreign country) and TOP is negative, RGDP will be negative because an increase in exchange rate will lead to a demining rate of currency value at foreign market causing a negative relationship with import due to the increase in price of foreign goods, causing a decrease in technological advancement, a negative TOP causes a negative relationship with national export.

$$\partial(GDP)/\partial(X) < 0$$

$$\partial(GDP)/\partial(M) < 0$$

$$\partial(GDP)/\partial(TC) < 0$$

$$\partial(GDP)/\partial(TOP) < 0$$

$$\partial(GDP)/\partial(ER) < 0$$

β_0 is always positive cause there are other factors that affect RGDP aside from the ones stated above such as national depts, debts services, fisical deficit, industrialization, human capital, FDI, unemployment etc.

3.5 Sources of data

The data used in this study are secondary data. This data will be extracted from the central bank statistical bulletin, central bank accounting and annual report, word bank annual data and other journals related to this study.

SYMBOL	VARIABLE	DESCRITION	SOURCES OF DATA
RGDP	Real gross domestic product	Real GDP can be defined has GDP adjusted for inflation GDP can be defined has the total output of goods and services produced within a country during a specific period of time.	CB-statistical bulleting Word bank annual data
X	Value of export	The value of sales to residents of another country of goods or services which are domestically produced.	CB-statistical bulleting
M	Value of import	value of the purchase of goods or services which has been produced by another country.	CB-statistical bulleting
TC	Technological changes	The degree of technological changes	Journals
TOP	Degree of trade openness	Extent to which a nation allows importing and exporting of goods and services.	CB-statistical

			bulleting Word bank annual data
ER	Exchange rate	The price of a currency in terms of another	Word bank annual data CB-Statistical bulleting

TABLE 3.1

3.6 test of significance criteria

3.6.1 Economic Criteria

this is the size and sign of each variable in economic relation. The relationship between the independent and dependent variables will be expressed in economic theories. It is expected that the model:

$$RGDP = \beta_0 + \beta_1 X + \beta_2 M + \beta_3 TC + \beta_4 TOP + \beta_5 ER + \mu$$

Each parameter should be greater than zero (>0)

If, however the estimation does conform with the economic theory, they should therefore reject.

3.6.2 Statistical criteria

the examines the statistical dependability of the estimate of the parameter. The square of the correlation coefficient (R^2) is used to measured the percentage of total variation. The T-statistic is used to measure the statistical significance of an independent variable.

3.6.3 Econometric Criteria

These criteria aim at detecting the validity and invalidity of the statistical criteria.

3.7 Justification of variables

- **Dependent variables:**

  The dependent variable for this study is the real gross domestic product (RGDP). RGDP is a major factor used by economist for the measurement economic growth.

- **Explanatory variables:**

  There are many factors which are used to determine economic growth in an economy. For this study our explanatory variables are trade openness, technological changes, exchange rate, import and export

3.8 Estimation Techniques

The estimation technique used for this study will be the Auto-regressive distribution lag (ARDL). The ARDL model is used to forecast the relationship between the dependent variable and independent variable in a single equation time series setup. There are other methods of estimation techniques such as the Ordinary Least Square Method (OLS). The

ARDL model analysis the long-run and short-run relationship of a model regardless of what level the variables are stationary either at level one I(0) or at first difference I(1) or co-integration. Also, the ARDL model does not involve a proportion of lag length rather each variable can have a different lag length.

For our unit root time series data, we will be using both Augmented Dickey-Fuller test (ADF) and Philips-Perron test (PP) both tests are used to ensure that we get an accurate result. The unit root test is used to test the stationarity of our variables with a test of both level and first difference for both methods.

After conducting our unit root test, the next test to be conducted is the lag length test. To obtain the optimum number of lag length the ARDL model is advised to be used to carry out this, the annual data lag length test allows us to select from two lag order.

The next test to be conducted is the co-integration test. this test is carried out to determine the long run relationship between the dependent and independent variables. When one or more variable are stationary they are said to have a stochastic trend (this are a trend that can change each run due to random component of the process). Cointegration is a technique used to find the correlation relationship between time series variables processes in the long term.

When carrying out a cointegration relationship between variables there is either a long run, short run (equilibrium relationship, although in the short run relationship there ia every possibility of a disequilibrium relationship).

ARDL equation for objective one:

$$\Delta InRGDP =$$

$$a_0 + \sum_{i=1}^{a} a_1 \Delta InRGDP_{t-1} + \sum_{i=0}^{b} a_2 \Delta InX_{t-i} + \sum_{i=0}^{c} a_3 \Delta InTC_{t-i} +$$

$$\sum_{i=0}^{d} a_4 \Delta InTOP_{t-i} + \sum_{i=0}^{e} a_5 \Delta InER_{t-i} + b_1 InRGDP_{t-1} + b_2 InX_{t-1} +$$

$$b_3 InTC_{t-1} + b_4 InTOP_{t-i} + b_5 InER_{t-i} + \mu_t \quad \ldots.7$$

The symbol Δ is used to denote the first difference, the variable a_0 is used to denote that there are other factors order than the ones stated which affects RGDP and μ_t is too denote the error term. The b is used to denote the long run coefficient to be estimate. While a is use to denote short run coefficient. The equation 7 above is used to denote the study test of null hypothesis with no cointegration $H_0: b_1 = b_2 = b_3 = b_4 = b_5 = 0$ against the alternative hypothesis $H_1: b_1 \neq b_2 \neq b_3 \neq b_4 \neq b_5 = 0$

ARDL equation for objective two:

$$\Delta InRGDP = a_0 + \sum_{i=1}^{a} a_1 \Delta InRGDP_{t-1} + \sum_{i=0}^{b} a_2 \Delta InM_{t-i} + \sum_{i=0}^{c} a_3 \Delta InTOP_{t-i} +$$

$$\sum_{i=0}^{d} a_4 \Delta InER_{t-i} + b_1 InRGDP_{t-i} + b_2 InM_{t-1} + b_3 InTOP_{t-i} + b_4 InER_{t-i} + \mu_t \quad \ldots.8$$

Where: the symbol Δ is used to denote the first difference, a_0 variable is used to denote that there are other factors that factors order than ones stated above which affects RGDP and μ_t is too denote the error term. The bs are used to denote the long run coefficient to be estimate. While as are used to denote short run coefficient. The equation 8 above is used to denote the study test of null hypothesis with no cointegration $H_0: b_1 = b_2 = b_3 = b_4 = 0$ against the alternative hypothesis $H_1 \neq b_1 \neq b_2 \neq b_3 \neq b_4 = 0$

CHAPTER 4

DATA ANANLYSIS AND INTERPRETATION

4.0 INTRODUTION

In this chapter we will be discussing in details the presentation, analysis and interpretation of the data gathered. This has become a very important aspect of research were investigation takes place, discovering of new facts, verification of existing knowledge, also

attaining additional information with a view of solving them or improving it. In this work we aim at evaluating the effect of international trade on economic growth in Nigeria. This chapter will present the result of the empirical investigation.

The research uses a time series data of 25 years (1990-2019). The result reveal certain issues regarding the relationship between economic growth (measured by Gross Domestic Products) and internal trade, external trade, exchange rate, degree of trade openness and technological changes. The study uses secondary source of data from the central bank statistical bulleting and Word bank Development Indicator. The hypothesis in chapter one will be tested in this section using the techniques stated above in chapter three.

4.1 PRESENTATION OF DATA

The data below shows a record from the 1990-2019 of Nigeria's Real GDP, Import, Export, Trade openness, Exchange rate, Technological Changes.

TABLE 4.1

YEAR	EXPORT	IMPORT	RGDP	TOP	exchange rate	TECNOLOGICAL CHANGE
1990	20.97477285	9.949967231	11.77688593	170.7560712	8.038285	2.977161375
1991	24.24686728	12.77473759	0.358352604	5623.642307	9.909491667	1.1028981
1992	23.9747503	14.25263801	4.631192947	435.3035543	17.298425	1.275536163
1993	20.06653995	13.65321498	-2.035118776	-989.164153	22.0654	1.978077378
1994	13.54924651	9.509989939	-1.814924483	-1106.133762	21.996	3.059587189
1995	24.15581596	15.37256245	-0.072664767	-27787.27447	21.89525833	2.265712058
1996	23.02469951	17.23302974	4.195924045	481.187142	21.884425	12.26259782
1997	28.64975397	22.81125683	2.93709942	689.6769447	21.88605	2.351026085
1998	18.1440897	21.13451777	2.581254103	781.0715293	21.886	2.330351742
1999	21.33433128	13.1234999	0.584126895	3458.725065	92.3381	1.928170245
2000	36.02326561	12.97233386	5.015934757	405.9110344	101.6973333	1.482401172
2001	28.25095823	21.42954206	5.917684652	342.9129935	111.23125	3.488900431
2002	23.2397194	16.79544919	15.32915574	132.1168467	120.5781583	3.570178998
2003	26.75138108	22.58358378	7.34719497	276.2620822	129.22235	3.651457565
2004	20.25380338	11.64206706	9.250558228	218.8250431	132.888025	3.732736132
2005	21.03395529	12.02550478	6.438516525	314.674032	131.2743333	3.814014698
2006	29.51613188	13.05043393	6.059428031	335.9254572	128.6516667	3.895293265
2007	21.23633657	18.10059494	6.591130361	307.7220788	125.8081083	3.976571832
2008	25.67007222	15.12676313	6.764472778	300.6398487	118.5666667	4.057850399
2009	18.63034142	17.42836899	8.036925102	252.2893166	148.88	4.139128966
2010	25.6606113	17.66014555	8.005655915	254.2778047	150.2975	4.220407533
2011	31.61694021	21.66101812	5.307924204	384.8240596	153.8625	4.301686099
2012	31.54658773	12.98578032	4.230061175	483.1009537	157.5	4.382964666
2013	18.04990659	12.99895337	6.671335393	304.4442809	157.3116667	4.464243233
2014	18.43512606	12.45006765	6.309718656	322.1118463	158.5526417	4.5455218
2015	10.66630962	10.66634225	2.652693295	763.6262787	192.4403333	4.626800367
2016	9.218109698	11.50440918	-1.61686895	-1252.555508	253.492	4.708078934
2017	13.1715621	13.1760369	0.80588662	2519.177652	305.7901092	4.7893575
2018	15.49688918	17.51094431	1.922757342	1057.594136	306.0836882	4.870636067
2019	14.22092679	19.80295104	2.208429277	920.6638165	306.9209515	4.951914634

4.2 TREND ANALYSIS OF DATA

4.2 1 UNIT ROOT TEST

Before the appraisal of our objective, we have to examine the characteristics of the data to know if data are of importance to the study. Using the unit root test of Augmented Dickey Fuller (ADF) test and Phillips-Perron test. This test are carried out to know the if the data's are stationary, if they are integrated at order zero (0) i(0), if integrated at order one (1) NS. The tables below give the result of the tests. The table below states the result of the ADF test.

TABLE 4.2

	ADF(level)						ADF(first difference)					
	Augmented dickey fuller test(intercept)											
	statistic	critical values			probability	remarks	statistics	Critical value			probability	remarks
		1%	5%	10%				1%	5%	10%		
RGDP	-3.456512	-3.679322	-2.967767	-2.622989	0.0169	i(0)	-8.8059	-3.6892	-2.971853	-2.6251	0	i(0)
											0.0000	
EXP	-3.002602	-3.679322	-2.967767	-2.622989	0.0464	i(0)	-6.9247	-3.6892	-2.971853	-2.6251		i(0
IMPORT	-3.81762	-3.67932	-2.96777	-2.62299	0.0072	i(0)	-6.8389	-3.6892	-2.971853	-2.6251	0	i(0)
EXC	0.636832	-3.679322	-2.967767	-2.622989	0.9883	NS	-3.8266	-3.6892	-2.971853	-2.6251	0.0072	i(0)
TOP	-3.296887	-3.711457	-2.981038	-2.629906	0.0255	i(0)	-4.0105	-3.7529	-2.998064	-2.6388	0.0056	i(0)
TECH	-0.288699	-3.752946	-2.998064	-2.638752	0.9125	NS	-13.407	-3.788	-3.012363	-2.6461	0	i(0)

	Augmented Dickey Fuller test (intercept and trend)											
	ADF(level)						ADF(first difference)					
	statistics	critical values			probability	remarks	statistics	critical value			probability	remark
		1%	5%	10%				1%	5%	10%		
RGDP	-3.461377	-4.309824	-3.574244	-3.221728	0.0628	NS	-4.467011	-4.356068	-3.595	-3.233456	0.0078	i(0)
EXP	-3.353878	-4.309824	-3.574244	-3.221728	0.0777	NS	-6.820771	-4.323979	-3.5806	-3.225334	0	i(0)
IMPORT	-3.748125	-4.309824	-3.574244	-3.221728	0.0348	i(0)	-6.698341	-4.323979	-3.5806	-3.225334	0	i(0)
EXC	-2.312028	-4.323979	-3.580623	-3.225334	0.4143	NS	-3.85675	-4.323979	-3.5806	-3.225334	0.0281	i(0)
TOP	-4.16399	-4.356068	-3.595026	-3.233456	0.0152	i(0)	-3.569613	-4.416345	-3.622	-3.248592	0.0553	NS
TECH	-6.199092	-4.440739	-3.632896	-3.254671	0.0003	i(0)	-19.57803	-4.467895	-3.645	-3.261452	0	i(0)

SOURCE Authors's compilation from Eviews 10

The above unit root test was generated using the Augmented Dickey-Fuller unit root test statistic and Probability-value. All the variables are tested at level and first difference, running an ADF test for both intercept and intercept and tend. We accept null hypothesis when P-value is less than the significant level (0.05) at this point variables are said to be stationary and we reject null hypothesis when P-value is greater then the significant level (0.05) at this point variables are non-stationary or it is stationary when our ADF statistics is greater than critical value at 5%. The ADF test for intercept at level is stationary at RGDP, EXP, IMPORT and TOP, it is not stationary at EXC and TECH. Then at first difference it is stationary at all variables.

ADF test for intercept and trend at level is stationary at three variables which are IMPORT, TOP and TECH. Then for first difference it is stationary at all variables except TOP.

TABLE 4.3

PHILLIPS-PERRON TEST

Phillips-Perron Test (intercept only)

variable	LEVEL						FRIST DIFFERENCE					
	P-VALUE	CRITICAL VALUES			PROB.	REMARKS	P-VALUE	CRITICAL VALUES			PROB	REMARKS
		1%	5%	10%				1%	5%	10%		
RGDP	-3.601956	-3.679322	-2.967767	-2.622989	0.012	i(0)	-16.03515	-3.689194	-2.971853	-2.625121	0	i(0)
EXP	-2.992069	-3.679322	-2.967767	-2.622989	0.0475	i(0)	-10.79414	-3.689194	-2.971853	-2.625121	0	i(0)
IMP	-3.691854	-3.679322	-2.967767	-2.622989	0.0097	i(0)	-14.16315	-3.689194	-2.971853	-2.625121	0	i(0)
TOP	-5.042933	-3.679322	-2.967767	-2.622989	0.0003	i(0)	-13.41515	-3.689194	-2.971853	-2.625121	0	i(0)
EXC	0.582919	-3.679322	-2.967767	-2.622989	0.9867	NS	-3.667851	-3.689194	-2.971853	-2.625121	0.0105	i(0)
TECH	-4.855596	-3.679322	-2.967767	-2.622989	0.0005	i(0)	-21.11272	-3.689194	-2.971853	-2.625121	0.0001	i(0)

Phillips-Perron Test (intercept and trend)

variable	LEVEL						FRIST DIFFERENCE					
	P-VALUE	CRITICAL VALUES			PROB	REMARKS	P-VALUE	CRITICAL VALUES			PROB	REMARKS
		1%	5%	10%				1%	5%	10%		
RGDP	-3.605055	-4.309824	-3.574244	-3.221728	0.0469	i(0)	-19.82526	-4.323979	-3.580623	-3.225334	0	i(0)
EXP	-3.353878	-4.309824	-3.574244	-3.221728	0.0777	NS	-17.40815	-4.323979	-3.580623	-3.225334	0	i(0)
IMP	-3.618578	-4.309824	-3.574244	-3.221728	0.0456	i(0)	-13.65861	-4.323979	-3.580623	-3.225334	0	i(0)
TOP	-5.179576	-4.309824	-3.574244	-3.221728	0.0013	i(0)	-13.64901	-4.323979	-3.580623	-3.225334	0	i(0)
EXC	-1.664915	-4.309824	-3.574244	-3.221728	0.7409	NS	-3.611566	-4.323979	-3.580623	-3.225334	0.0469	i(0)
TECH	-6.127045	-4.309824	-3.574244	-3.221728	0.0001	i(0)	-21.51673	-4.323979	-3.580623	-3.225334	0	i(0)

Source: Author's computation using E-view10(2020)

Just as the ADF test the Phillips-Perron test is used to test if the data stationary. All the variables are tested at level and first difference. Using Phillips-perron test to run the variables at intercept and intercept & trend. for this also we accept null hypothesis when P-value is less than significant level (0.05) st this point such variable is said to be stationary. We reject null hypothesis when Probability value is greater than significant level (0.05) at this point such variable is not stationary, also a variable can be said to be stationary when its P-value is greater than critical value at 5%. In the PP intercept only test above at level test all variables are significant except from EXC. At first difference test all of its variables are significant. In Phillips-perron intercept and tend test at level all variables are significant except for EXP and EXC. At first difference all variables are significant.

4.3 LAG LENGTH ORDER SELECTION CRITERIA

The long run relationship between variables are tested using ARDL co-integration method. The ARDL co-integration technique was preferred among all others because compared to other estimation techniques of co-integration relationship the ARDL does not involve a proportion of lag lengths rather each variable can have a different value of lag length. Its required determine the suitable lag length to avoid the problem of misspecification and loss of degree of freedom before the test is run (importance of lag length test). The lag length test is section into the following lag order selection criterion attributed to Final prediction error (FPE), Akaike information criterion (AIC), Schwarz information criterion (SC), Hannan-Quinn information criterion (HQ) and Sequential modified LR test statistic (each tested at 5%level). The lag length with the lowest value of any of the criteria will be selected and consider as optimum lag length.

TABLE 4.4

LAG LENGTH CRITERIA SELECTION FOR OBJECTIVE ONE

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-662.147	NA	3.41E+14	47.65336	47.89125	47.72609
1	-556.5896	165.8759*	1.12e+12*	41.89926*	43.32662*	42.33562*
2	-533.2042	28.39661	1.52E+12	42.01458	44.63141	42.81457

SOURCE: Author's Compilation from Eviews 10

LAG LENGTH CRITERIA SELECTION FOR OBJECTIVE TWO

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-594.949	NA	4.47E+13	42.78207	42.97238	42.84025
1	-540.177	89.98254*	2.85e+12*	40.01264*	40.96422*	40.30355*
2	-528.5858	15.73092	4.22E+12	40.32756	42.04039	40.85119

SOURCE: Author's Compilation from Eviews 10

The above shows the lag length test result for both objective one and two. The annual data lag length test allows us to pick from two lag order. All test result for both objectives selected a lag length order of one.

4.4 CO-INTEGRATION TEST-BOUND: TEST FOR CO-INTEGRATION

The co-integration test is used to ascertain the long-run relationship between the dependent variable and explanatory variable. Before co-integration technique was introduced economics relied on linear regression to ascertain long run relationship between variables. The bound co-integration technique is used because whether the basis of the variables are I(0), I(1), or combination of both regardless of which this technique can be applied.

TABLE 4.5

Results of Bound Test Approach to Co-Integration for Objective one				
F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	lower bound I(0)	higher bound I(1)
			Asymptotic: n=1000	
F-statistic	4.847107	10%	2.2	3.09
k	4	5%	2.56	3.49
		2.50%	2.88	3.87
		1%	3.29	4.37

Results of Bound Test Approach to Co-Integration for Objective two				
F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	lower bond I(0)	upper bond I(1)
			Asymptotic: n=1000	
F-statistic	3.494493	10%	2.37	3.2
k	3	5%	2.79	3.67
		2.50%	3.15	4.08
		1%	3.65	4.66

After computation of the unit root test which is use to check if our data are stationary, lag length test which was used to test the long run relationship between variables, a co-integration test is carried out to ascertain a long-run relationship. There are various methods used to conduct the co-integration test: Engle-Granger two-step method, Johansen test, Trace tests, Maximum Eigenvalue test. The technique used in this study is a recently developed econometric technique, the bound test approach to co-integration. One of the advantages of this technique is that it allows a combination of both the upper bound and lower bound test variables as regressors. The co-integration test is used to show the relationship between variables. The tables above show the cointegration test for both objective one and two.

From objective one, as seen from the table above 10% level of significance, the null hypothesis was rejected of no long run relationship among the variables examined and accept alternative hypothesis. The F-statistic result for objective one is 4.847107 which is greater than the upper bound value I(1) 3.09 at 10% level of significance. This signifies that there is a long run relationship between the variables and the existence of co-integration.

From the above table which states the cointegration test for objective two, at 10% level of significant the null hypothesis was rejected of no long run relationship among the variables examined and accept alternative hypothesis. The F-statistic result for objective two is 3.494493 which is greater than the upper bound which is 3.2 at 10% level of significance. This signifies that there is long run relationship between the variables and the existence of co-integration.

4.5 Empirical Results on Long Run and Short Run effect

To establish an estimation of model, a test for stationary status of variables was conducted to know their order of integration. This is carried to avoid error in result and to ensure that no variables are integrated of order two. For this too be carried out the Augmented Dickey Fuller (ADF) and Philips-Peron (PP) approach where abducted. These tests were carried out for two different specifications. First these tests were conducted using intercept only and then it was conducted using intercept and trend method.

After this a lag test was carried out for the selection of the appropriate lag-length selection criterion. The test result shows a maximum lag-length criterion of order 1, was chosen for the ARDL model.

A Cointegration test was carried out after running the lag-length test. The test of cointegration is used to test the long run relationship between the dependent and independent variables. The null hypothesis showed that there was no long run relationship between variables which we therefore reject null hypothesis and accept alternative hypothesis.

4.5.1 Empirical Result on long run effect

Long run objective one.

The result of the long run effect is represented in the table below. In the table below if the value of the statistic of RGDP appears to be less than 0.05 the effect of this is economic growth in the long run is said to be insignificant. This states that RGDP is not effective in enhancing economic growth in Nigeria. There is no long run equilibrium relationship between economic growth and FDI, there is said to be equilibrium relationship when the t-Statistic is equal to the prob value. The coefficient of RGDP is positive (0.270653) and it is said to be

statistically significant at Prob value of 0.1134 which is greater than 5% (0.05) of significant level and t-Statistic = 1.652104.

The result of the long run effect estimation on TEC (technological changes) in the table below, shows that TEC value is greater than 0.05 the effect of this on economic growth in the long run is said to be statically significant. This means that TEC has impact in enhancing the economic growth in Nigeria. The long run relationship between economic growth and TEC is said to be positive (1.794639). There is no equilibrium relationship, there is said to be an equilibrium relationship when Prob value equal to t-statistical value. The coefficient of TOC is positive (1.794639) and it is said to be statistically insignificant at Prob value of 0.1597 which is greater than 0.05 of significant level and t-Statistic value of 1.457836. This result is in line with the study expectation. Holding other factors constant one percentage change in TEC will increase RGDP by 1.794639.

Also, the effect of the long run estimation on TOP (trade openness) in objective one, shows that the value of TOP is greater than the level of significance, which means that the effect of TOP on economic growth in the long run is statistically significant. TOP influences the increase in economic growth in Nigeria. The long run relationship between economic growth and TOP is negative and their relationship is not statistical as shown in the t-Statistic value (-0.401985) and Prob value of (0.6918). this result is not in line with study expectation as this can be as a result of trade restrictions, high price of tariff etc. Holding all other factors constant one percentage change in TOP will reduce RGDP by -4.87E-05.

Result from long run effects of objective one, shows that on the part of EXCG variable (Exchange rate), EXCG is less than the level of significance which is 0.05, this shows that EXCG effect of economic growth in the long run is statistically insignificant. This also

shows that EXCG has a low influence in economic growth in Nigeria. The long run relationship between EXCG and economic growth is negative (-0.004491) and there is no statistical relationship as seen in t-Statistic (-0.259198) and prob value of (0.798). The result from this test is not in line with study expectation and this can be as a result of the reduction in the value of Naira in the money market or high exchange rate. Holding all other variables constant, a one percent change in EXCG will cause a reduction in RGDP by -0.004491.

The long run effect for the table below shows that EXPO (export) is higher than the level of significance 0.05, stating that EXPO effect of economic growth in the long run is statistically significant. Meaning that EXPO has an impact in influencing. The long run relationship between EXPO and economic growth is positive (0.151413) and there is an existence of statistical relationship as show in our t-Statistic = 1.411764 and Prob value = 0.1727. there is no equilibrium relationship. The result from the test is in line with the study expectation. Holding every other factor constant, one percentage change in EXPO will lead to increase in RGDP by 0.151413.

More so the R^2, the adjusted R^2, the F-statistic and the Durbin-Watson statistic of any selected model is shown in panel B of the tale below. R^2 is the explanatory power of the model and it is low (0.52953). this states that the proportion of variation in economic growth measured by the log of RGDP jointly explained by technological changes, trade openness, exchange rate and export is 52%.

Adjusted R^2 is the proportion of variation in the economic growth that can be measured by the log of RGDP that is jointly explained by the dependent variables after the effect of insignificant repressor has been removed is about 37%.

The F-statistic is used to measure the general significance of the estimation model significance at 3.376607 with a probability value of 0.014218. the suggested conclusion is that the natural rate increase in Technological change, Trade openness, Exchange rate and export are insignificant determinant of economic growth in Nigeria. This also extend the fact that the results are policy insignificant, expect the Durbin-Watson statistic which can be used to test autocorrelation of residuals in the model. The first order autocorrelation result indicates the absence of serial autocorrelation at 2.190293.

TABLE 4.8

OBJECTIVE 1

Regressand: DRGDP

Panel A: Long Run Coeffcients

Variable	Coefficient	Std. Error	t-Statistic	Prob.*
RGDP(-1)	0.270653	0.163823	1.652104	0.1134
TEC	1.794639	1.23103	1.457836	0.1597
TOP	-4.87E-05	0.000121	-0.401985	0.6918
TOP(-1)	0.000557	0.000443	1.255702	0.223
EXCG	-0.004491	0.017326	-0.259198	0.798
EXPO	0.151413	0.107251	1.411764	0.1727
EXPO(-1)	0.198587	0.131712	1.507738	0.1465
C	-10.74701	3.704148	-2.901344	0.0085

Panel B: Goodness-of-fit Measure

R-squared	0.52953
Adjusted R-squared	0.372707
F-statistic	3.376607
Prob(F-statistic)	0.014218
Durbin-Watson stat	2.190293

Source: Author's Comiplation from Eviews 10

Long run objective 2

the long run examination of the long run effect for objective two result is represented in the table below. The table shows that if the statistical value of RGDP is greater than 0.05 its effect on economic growth in the long run is said to be significant. That means that RGDP is efficient in stimulating economic growth in Nigeria. As seen in the table below there is no equilibrium relationship between RGDP and economic growth. As shown by the T-statistic and Prob value. The coefficient of RGDP is positive (0.362805) and its is statistically significant at Prob value of 0.362805 which is greater than 5% of significant level and t-Statistic of 2.088774.

As shown in the table below the statistical value of economic growth to IMP (import) is less than 0.05 the effect of this result on economic growth on IMP on long run is insignificant. This states that IMP is inefficient in stimulating economic growth in Nigeria. As shown in the table below the relationship between IMP and economic growth is negative (-0.008569). there is no existence of an equilibrium relationship between the two variables as shown by the t-Statistic and Prob value. The coefficient of IMP is negative (-0.008569) and its statistically insignificant at Prob value of 0.0485 and t-statistic value of 2.088774. Holding all other factor constant, the one percentage change in IMP will cause a decrease in RGDP by -0.008569. The result from the estimation is not in line with study expectation, and this can be as a result of deficit balance of trade.

The result of the long run estimation on TOP (trade openness), as shown in the table below, the value of TOP is greater than the 0.05 significant level. this means that TOP is efficient in stimulating economic growth. There is no existence of equilibrium relationship. The coefficient value is negative (-3.07E-0.5), which states that the long run relationship between trade openness and economic growth is negative meaning the relationship between them is non-statistical as shown in the t-statistic value of -0.230708 and prob value of 0.8197. that states that holding all other factors constant a one percent change in TOP will cause a decrease in RGDP by -3.07E-05.

The objective two table below shows the value of EXCG (exchange rate) to be less than significant level of 5%. The coefficient value of EXCG is negative (-0.04495) , which means that the long run relationship between economic growth and EXCG is negative, stating the relationship between them is non-statistical as shown by t-statistic value of -1.308898 and prob value of 0.4221. which means that a one percentage change in EXCG will cause a negative change in RGDP by -0.04495 holding all factors constant.

The R^2, adjusted R^2, F-statistic and Durbin-Watson statistic of the selected model is presented in the panel B of the table below. The explanatory power of the model is low (0.400604). this explain that the economic growth measured by the log of RGDP jointly explained by Import, trade openness and Exchange rate is 40%.

The Adjusted R^2 is the proportion of variation in the economic growth that can be measured by log of RGDP that is jointly explained by the explanatory variable after the effect of insignificant repressor has been removed is 23%.

The F-statistic is used to measure the all-round significance of the estimation model significance at 2.450607 with a probability value of 0.057402. this state that a natural rate increase in Import, Trade openness and exchange rate are significant determinants of economic growth of economic growth in Nigeria. This state that the result can be useful in policy. The Durbin-Watson statistic is used to test for autocorrelation of residual in the model, the autocorrelation indicates the absence of serial autocorrelation at 1.763164.

TABLE 4.7

OBJECTIVE 2

Regressand: DRGDP

Panel A: Long Run Coefficient

Variable	Coefficient	Std. Error	**t-Statistic**	**Prob.***
RGDP(-1)	0.362805	0.173693	2.088774	0.0485
IMP	-0.008569	0.182882	-0.046856	0.9631
IMP(-1)	0.335333	0.179411	1.869072	0.075
TOP	-3.07E-05	0.000133	-0.230708	0.8197
EXCG	-0.04495	0.034342	-1.308898	0.2041
EXCG(-1)	0.05362	0.035979	1.490336	0.1503
C	-2.900976	3.545895	-0.818122	0.4221

Panel B: Goodness-of-fit Measures

R-squared	0.400604
Adjusted R-squared	0.237133
F-statistic	2.450607
Prob(F-statistic)	0.057402
Durbin-Watson stat	1.763164

Source: Author's compilation from Eviews 10

4.5.2 Empirical Result on short run effect

Short run objective one

To determine the objective one short run effect of a variable on economic growth, the adjustment mechanism to equilibrium in the short run also the speed of adjustment, the equilibrium relationship of the short run of the dynamics were gotten directly as the estimated coefficients of the level and first-difference variables in ARDL model and its result is presented in the table below.

From the result given by the table below the coefficient of the error correction term for the estimated equation is statistically insignificant and negative with a t-statistic value of -0.385618 and probability value of 0.7037. the speed of adjustment by coefficient of C states that the deviation from the short run to long run is corrected by -0.26% each year. Therefore, there is no existence of a stable long run relationship among RGDP, export, technological changes, trade openness and exchange rate. Also, the estimated short run model shows that it is alike with its insignificant long run.

From the table below we can see that a unit increase in export will cause the RGDP to decrease by -0.180413, and a decrease will cause RGDP to increase by 0.180413. Technological change is insignificant but has a positive effect on GDP, meaning that a unit increase in TEC will

cause RGDP to increase by 0.209806, ceteris paribus. For trade openness a unit increase in it will cause the RGDP to decrease by -0.209806, ceteris paribus. Exchange rate has a positive effect on RGDP but is insignificant. A unit change in EXCG will cause an increase in RGDP by 0.013257.

TABLE 4.8

OBJECTIVE 1

Regressand: DRGDP				
Panel A: Short Run Coefficient				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.259724	0.673527	-0.385618	0.7037
D(RGDP(-1))	-0.180413	0.176869	-1.020037	0.3193
D(EXPO(-1))	-0.005603	0.098954	-0.056625	0.9554
D(TEC(-1))	0.209806	0.264416	0.793467	0.4364
D(TOP(-1))	-0.000119	9.26E-05	-1.280632	0.2143
D(EXCG(-1))	0.013257	0.030731	0.431371	0.6706
ECT(-1)	-0.473236	0.224216	-2.110627	0.047

Panel B: Goodness-of-fit Measures	
R-squared	0.377913
Adjusted R-squared	0.200174
F-statistic	2.126221
Prob(F-statistic)	0.093042
Durbin-Watson stat	1.786608

Source: Author's Comiplation from Eviews 10

Short run objective two

To determine the objective two variables short run effect, the adjustment mechanism to equilibrium in the short run as well as the speed of adjustment, the equilibrium relationship of the short run dynamics were obtained directly as the estimated coefficients of the level and first difference variable in the ARDL model and the result is shown in the table below.

The table below shows the result and we can see that the coefficient of the error correction term for the estimated equation is statistically insignificant and negative with t-Statistic value of -0.342556 and probability value of 0.7352. the speed of adjustment given by the coefficient of C state that the deviation from short run to long run is corrected by -0.243031 percentage per year. Meaning that there is no stable long run relationship between RGDP, import, trade openness and exchange rate. The estimated short run model shows that it is similar to its insignificant long run.

The table shows that a unit increase in Import will cause RGDP to increase by 0.145438, ceteris paribus. Also, a unit increase in trade openness will cause a decrease in RGDP by -5.09E-05, ceteris paribus. Its also seen in the able below that a unit increase in exchange rate will cause an increase in RGDP by 0.019061.

TABLE 4.9

OBJECTIVE 2

Regressand: DRGDP				
Panel A: Short Run Coefficient				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.243031	0.709465	-0.342556	0.7352
D(RGDP(-1))	-0.168911	0.1777	-0.950536	0.3522
D(IMP(-1))	0.145438	0.145628	0.998695	0.3288
D(TOP(-1))	-5.09E-05	8.05E-05	-0.632492	0.5336
D(EXCG(-1))	0.019061	0.033251	0.573253	0.5723
ECT(-1)	-0.293404	0.216156	-1.357367	0.1884

Panel B: Goodness-of-fit Measures	
R-squared	0.318066
Adjusted R-squared	0.16308
F-statistic	2.052233
Prob(F-statistic)	0.110518
Durbin-Watson stat	1.791751

Source: Author's Comiplation from Eviews 10

4.6 Discussion of Findings

The above displays an ARDL estimation model. It estimated the effect of international trade on economic growth in Nigeria from a period of 1990-2019 (29years). There are 2 major objectives which were analyze, which are: examine the effect of Nigeria exportation of goods and services on its economic growth, examine the effect of Nigeria importation of goods and services on its economic growth. The analysis of the effect of export, import, technological changes, degree of trade openness and exchange rate on Nigeria economic growth if the variables have a positive or a negative effect. The result of the above analysis has shown that export has a negative impact on the economic growth of Nigeria, Technological change has a positive impact on Nigeria economic growth, Exchange rate has a positive impact on the economic growth of Nigeria, import have a positive impact on Nigeria economic growth.

CHAPTER 5

SUMMARY, CONCLUTION AND RECOMMENDATION

5.0 INTRODUCTION

This chapter covers the summary, conclusion and recommendations of the study. The chapter also covers policy recommendations.

5.1 SUMMARY OF THE STUDY

The study examined the critically the relationship between international trade and economic growth in Nigeria using a time series secondary data from 1990 to 2019 also employing the ARDL estimation technique. The major objective of this study was to determine the effect of international trade on economic growth in Nigeria. The reason for the study of impact of international trade is because of the great role played by trade in the economic growth of every nation. Trade is an activity that takes place every day, even during the global lock down in the year 2020 there were still trade activities going on, so trade is not an aspect of the economy that can be overlooked. The study examines the trend behaviors of real gross domestic product, value of export, value of import, technological changes, degree of trade openness and exchange rate, each variable covers a period of 1990 to 2019.

The specific objective of the study was analyzed using the ARDL estimation technique. Before the conduction of the ARDL test, the unit root test was carried out to determine the time series of the variables used in the study, using both the Augmented Dickey-Fuller test (ADF) and Phillips-Perron (PP) test. The ADF test for intercept only shows that all variables are stationary except from exchange rate and technological changes at level. while at first difference all variables are stationary. ADF test for intercept and trend shows that at level only three variables are stationary and at first difference all variables are stationary except from trade openness.

PP test at level for intercept only shows that all variables are significant except exchange rate and for first difference all variables are significant. For intercept and tend at level all variables are significant except for export and exchange rate and at first difference all variables are significant.

The next test was the lag length test which determines the cointegration relationship among the variables by using the bound test approach. A lag order of one was selected for both tests. The study moved forward to test for the long run and short run relationship between variables.

5.2 CONCLUSION

This study has been able to identify the relationship between economic growth and international trade with the influence of some variables related to international trade. the result has shown that only technological change, import and exchange rate are in line with a-priori expectation and have a positive relationship with real gross domestic product. This shows that Nigeria has not benefited fully from its trade with other countries.

5.3 RECOMMENDATIONS

During the cause of this study a lot of issues regarding Nigeria international trade has been study and this study aims at providing solution to minimize the problems affecting international trade:

1. Government should diversify in its production of goods and services.
2. Government should make loan and grant available for entrepreneurs to increase the availability of goods and services.
3. Government should also focus on technological advancement, so has to increase its production of secondary and finished goods, rather than focusing on the exportation of primary products.
4. Government should place a law to reduce the importation of goods, mostly goods that can be manufactured domestically, so has to encourage local producers and reduce the number of national finds spend on the importation of goods.
5. Government should make available training centers to teach citizens production of certain goods so as to reduce the importation of such goods.
6. Entrepreneurship should be taught at school so that students don't just graduate with academic certificate but also with entrepreneurship knowledge.

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