International Trade and the Economies of Developing Countries

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Abstract

The economic significance and benefits of foreign trade also known as international trade to the economies of developing countries cannot be overemphasized. Its role and contributions to the gross domestic earnings, employment generation, economic development, and poverty reduction in these underdeveloped countries such as Nigeria, Ghana, Benin Republic, and others have been too glaring especially in agrarian economies with fertile arable land.The main aim of this paper was to examine in-depth the contributions and relationship between international trade and the economic development of developing African countries. Furthermore, this paper recommended stringent macroeconomic policies that when formulated would encourage and increase the multiplier effect of these (foreign) trades. Part of these policies is targeted towards exchange rates, tariffs, import and export duties, subsidies, and actions that promote international trade.The research further concluded that internationaltradeis a key macroeconomic driver that must be encouraged in developing African countries as its multiplier effects have the potentials of driving the needed development goals of these nations. And for this to be achieved, these nations (developing countries) must formulate workable localized macroeconomic policies that suit and drive their interest as against borrowed economic policies from the developed European and Asian nations. Some of the recommendations proffered include adoption of friendly and pro-active export promotion policies, availability of grants, aids, subsidies, and loans, mechanization of the agrarian sector, adoption of flexible exchange rate, etc.This study made use of time series secondary data obtained from the World Development Indicators (WDI) and the United Nations Conference on Trade and Development (UNCTAD) of developing African countries for a period between 2000 and 2019. A forecast of 15 years was also initiated using these data to provide a long-term insight into the benefits of these trading activities on the GDP of developing countries.

Keywords: International Trade, Economic Development, Tariff, Import Duties, Export Duties, Exchange Rate.

I. Introduction

International trade refers to economic activities that involve trading between countries. The items generally traded are goods and services. These goods can further be classified into consumer and capital goods.

The services traded include insurance, travel, foreign patent payments, etc. It is worth noting that these transactions in international trade are facilitated by the international financial payments system and trading policies between countries.
Various studies have been conducted by experts to isolate and understand factors that influence the transformation of countries at diverse rates and realized varying levels of wealth with one of these factors being international trade. With Nigeria being a developing country with an open economy that allows transactions with various countries of the world, a sizable proportion of her total output is exported which forms part of her earnings (Mike and Okojie, 2012).

According to Frankel and Romer, external trade has been recognized as an apparatus and key driver of economic growth (Frankel and Romer, 1999).

The government of Nigeria sees exports as one of her powerhouses that is key to her expansion strategies   - constituting a significant amount of their gross domestic earnings which has its multiplier effects on job creation, market expansion, increased GDP, and knowledge dissemination (Ogbaji and Ebebe 2013).

Although international trade between nations may create room for economic growth in the country, however, it is not a rule of thumb that its overall outcome and effect are seen equally on their trading partners. This is because of the comparative advantage and absolute advantage gains countries may benefit in addition to their natural dispositions and resources.

Numerous determinants defined the degree to which a nation may profit from a trading alliance and one of these is the international exchange rate (Eravwoke and Oyovwi 2012).

It is worth noting that although the composition of developing countries foreign trade has changed over the years since their independence (for instance Nigeria), the contribution of international trade to their development and earnings has also witnessed significant increment. These increments have been augmented by their;

- ▪ Exchange rate
- ▪ Trading relations, and
- ▪ Open trading policies.

The classical and neoclassical schools attributed an enormous level of significance to international trade in any country's growth and development. The development of the world economies has equally been linked and tied together by foreign trade which makes up a nation's external economic relationships.

The importance of foreign trade to the macroeconomic development of any nation is indispensable which can be seen through the views of the neo-classical and classical economists where it was envisaged that; International trade is to an economy what an engine is to a car especially to the economies of less developed countries due to their untapped natural resources which is not limited to quantitative economic gains alone.

2. Objective of the Study

The principal aim of this study was to assess the contribution and significance of foreign trade to the economic growth and development of developing African countries.

The paper also recommended macroeconomic policies that would further promote international trade in these regions.

3. Literature Review

Numerous researches have been conducted to investigate the relationship and impact of foreign trade on the economic growth and development of various countries of the world. Some of the conclusions of these studies revealed that a significant positive relationship exists between the export and import activities of these countries on their GDP

In 2012, Kehinde et' al adopted a rank correlation analysis to investigate the impact of international trade on economic growth among developed countries. The result of this study revealed a positive relationship between international trade and the GDP of these countries.

In a study conducted by Frimpong & Oteng-Abayie (2006), where they analyzed the long-run effects of Foreign Direct Investment and trade on Ghana's economic growth from 1970 to 2002, it was observed that a long term relationship exists between the determinants of economic growth and the growth in itself. Their result showed that there is a negative relationship between economic growth and its determinant, while there is a positive relationship between economic growth and Foreign Direct Investment (FDI).

In another clime, Li, Chen, & San (2010) examined the correlation between international trade and the gross domestic product growth rate of East China between 1981 and 2008. In the cause of their review, they adopted a co-integration analysis and error correction model where they found out that international trade is the backbone behind the long- and short-term growth of the GDP of their country.

In 2013, Awe through her research deduced that economic growth is achieved when the real per-capital income of a country experienced a consistent increment over a long period. It is only when this has happened that the FDI will be considered a major driver of the experienced growth.

In the words of Thirlwa (2000), at least 60 countries in the world are tagged as developing countries with over 50% of these being African countries with a population of less than 15million people. In the absence of exportation in these markets, the production of commodities would not be productive as most of the goods and services produced will be wasted due to the absence of storage and processing facilities in these regions.

4. Conceptual and Theoretical Review

4.1 Conceptual Issues on International Trade

This paper also aims at shedding more insights into the concepts of international trade not just for researchers and economists, but also to an ordinary reader. Some of the concepts of international trade used in this paper are explained here.

4.1.1 Gross Domestic Product (GDP)

This is the total earnings of a country from all economic activities within her border both by foreigners and her citizens within the country. It is simply calculated as GDP = C + I + G + (X-M) in a 3-sector opened economy. Where C = Consumption Expenditure, I = Investment Expenditure, G = Government Expenditure, X = Export and M = Import.

4.1.2 Import (M)

Import involves the purchase and shipment of goods and services from a different country. For instance, this is when Ghana buys a commodity from China and it is shipped from China to Ghana.

4.1.3 Export (X)

This is the opposite of import for it involves the selling of commodities to another country. I.E The commodity that China sold to Ghana serves as an export to the Chinese.

4.1.4 Exchange Rate

This is the rate at which a country exchanges her currency for a unified payment method in international trade. In other words, it is the price of one country's currency to another which can be fixed or floating.

For instance, the current rate of the Nigerian naira to the dollar is 360.

4.1.5 Economic Growth

Economic growth refers to the increase in the goods and services produced by a country and her nationals in a financial period. It is often associated with an increase in the gross domestic product of a country.

4.1.6 Economic Development

In real terms, it means economic growth plus general transformation in the economy which includes poverty reduction, increased living standard, increased per capita income, etc. Economic development is the targeted goal of all macroeconomic policies and goals formulated by the various countries in the world especially developing nations.

4.2 Theories of International Trade

Several theories have been propounded all in a view to explaining the concept of international trade and equally to identify ray areas that countries can capitalize on to take more advantage of this.
Few of these theories will be discussed and analyzed here

4.2.1 The Classical Trade Theory

This theory aligns itself with the classical economist school of thought pioneered by Adam Smith and David Ricardo. According to this theory, a country's benefits from international trade are derived from its specialization and efficient resource allocation. This is because international trading drives technological growth, expansion, and skills that contribute substantially to increased economic productivity, earnings, and activities in the economy.

The classical trade theory hinges on 3 major assumptions and these are that.

- There are 2 countries producing 2 different commodities (i.e. Fish and Bread)
- There exists perfect mobility of production factors within these countries
- The economic size in these 2 countries are the same and equal

4.2.2 The Mercantilist Theory of Trade

According to this theory, the wealth of any country is highly dependent on the balance of trade. It further states that the government has an important role in the economy of the state which is not limited to encouraging export and discouraging importation. The government should thrive towards export promotion strategy in the economy as this will significantly drive the needed macroeconomic goals and objectives of the country. It further postulated that the government should discourage importation through the application of monetary and fiscal policy measures such as introduction and increase of taxes, removal of subsidies, the imposition of fines,etc. on goods imported into the country.

This theory believed that trade is a one-way transaction and a nation's goal should be targeted towards surplus trading.

4.2.3 Theory of Absolute Cost Advantage

This theory was postulated by Adam Smith in 1776. It emphasizes the need that a country should specialize in the production of products where they have an absolute advantage -ability to efficiently produce with minimal cost and wastage of resources with the assumption that labor is the only factor of production in the economy of the state.

4.2.4 Theory of Comparative Cost Advantage

This theory was postulated by David Ricardo. In his words, a nation is like a person who profits from trading activities by producing and exporting commodities they have the most comparative advantage of over its counterpart or trading partner. It further states that the nation should import those goods and services in which it has the least comparative cost advantage.

In summary, this theory is geared toward ensuring countries incur the least costs and get maximum benefits from their international trading activities or partnership with other nations.

4.2.5 Heckscher-Ohlin Theory of International Trade

This theory was postulated by Eli Heckscher and his student Bertil Ohlin. According to this theory, countries should export only what they can produce efficiently in excess. They further opined that international trade is determined by resource imbalances in the world and nations should take advantage of this resource imbalance to increase not just their capital base and earning but should be an opportunity to develop their region.

Furthermore, as regards importation, countries should import only commodities and materials that they need and that they cannot efficiently produce at a minimal cost.

5. Methodology

This study adopted the ordinary least square (OLS) estimation technique in its analysis by making use of yearly time series data obtained from the World Bank Index (WDI). Also, it further analyzed the data obtained from the United Nations Conference on Trade and Development (UNCTAD) on the contribution of international trade to developing countries taking into consideration two (2) major indexes: imports and exports from 2000 to 2019. Furthermore, 15 years forecast analysis was conducted on the available data which gave an in-depth insight into the effects and possible future contributions of international trading activities to developing economies. This was illustrated using a bar chart.

Unit root test and Descriptive Statistics analysis were conducted to ensure all data were stationary at various levels to avoid spurious and misleading regression results.

For the analysis, we formulated an econometric model in line with a study conducted by Erhieyovwe and Onokero (2013), where they analyzed the relationship between international trade and economic growth. The model specified in their study was modified to incorporate some variables to suit the aim of this study.

The modified time series is presented below.

$$GDP_t = \beta_0 + \beta_1(EXGR_t) + \beta_2(EXP_t) + \beta_3(IMP_t) + \mu_t \text{----------------------I}$$

Where

GDP= gross domestic product used as a proxy to measure economic development

EXGR= exchange rate

EXP = export rate

IMP= import rate

β_0 = the constant term,

β_1 = the parameter estimates of EXGR

β_2 = the parameter estimates of EXP

β 3 = the parameter estimates of IMP

μt = stochastic or error term (with usual properties of zero mean and non-serial correlation).

Bearing in mind that these variables have different measurement units, to further avoid spurious and non-stationary results, this model was logged to neutralize any variation caused by these different units of measurements of the data. In addition, this will normalize its high skewed variables into a dataset to improve the fit of the model distribution to a normally shaped bell curve.

$$\text{LogGDP}_t = \beta_0 + \beta_1 \text{LogEXGR}_t + \beta_2 \text{LogEXP}_t + \beta_3 \text{LogIMP}_t + \mu_t \text{-------------------------2}$$

5.1 Statistical Tests
This was conducted to evaluate and test for the statistical reliability of the parameters of the model estimated. These are F-statistics, T-statistics, Co-efficient of determination (R^2), and Unit root test.

5.1.1 Coefficient of determination (R^2) Test
This is a statistical criterion used to judge and determine the percentage of change that is attributed to the explanatory variables. In simple terms, a higher R^2 signifies that the model can explain more of these changes in the dependent variable with the error term (variables not captured in the model) having minimal influence.

5.1.2 Auto-correlation (DW) Test
The Durbin-Watson (DW) was used to test for autocorrelation in the model. As a rule,

a. If DW is approximately equal to 2 (d*=2) we conclude that there is no autocorrelation in the model.
b. If d*=0, there exists perfect positive autocorrelation. Furthermore, if 0< d*<2, that is if d* is less than two but greater than zero, it denotes that there is some degree of positive autocorrelation, which is stronger, the closer d* is to zero.
c. If d* is equal to 4 (d*=4) there exists a perfect negative autocorrelation, while if d* is less than four but greater than two (2< d*<4), it mean that there exist some degree of negative autocorrelation, which is stronger than the higher value of d*

6. Presentation & Analysis of Result
The result of the data analyzed are presented below

6.1 Descriptive Statistics
From the result of the descriptive statistics will be explained below

Table 1. Showing Descriptive statistics of the variables used in the regression analysis

	EXCHANGE RATE	EXPORT	GDP	IMPORT
Mean	5.094927	18.80041	7.157864	18.78558
Median	5.012617	18.83183	7.316042	18.99243
Maximum	5.726590	19.33926	7.541934	19.20143
Minimum	4.711611	18.04523	6.326101	17.93215
Std. Dev.	0.336732	0.383562	0.379979	0.422490
Skewness	0.982624	-0.671916	-1.102626	-0.927231
Kurtosis	2.576260	2.575240	2.919156	2.447334
Jarque-Bera	3.199724	1.572491	3.855154	2.964371
Probability	0.201924	0.455552	0.145500	0.227141
Sum	96.80361	357.2077	135.9994	356.9261
Sum Sq. Dev.	2.040987	2.648153	2.598919	3.212960
Observations	19	19	19	19

Source: E-views 11 Descriptive statistics regression output

The descriptive statistics further analyzed and explained the data used in the regression analysis. The major index is interpreted here, and these are;

- Jarque-Bera & P-Value: this is used to test for the normality of variables in a model. As a rule, when the p-value is greater than 5%, we conclude that the distribution level is normal. The result of the descriptive statistics revealed that the probability of all the variables used in the analysis is all greater than 5% (0.05). By the rule of thumb, we conclude that the distribution level of these variables is normal.
- Kurtosis: This measures the peakedness or flatness of the distribution of the series. According to the rule of thumb, when the kurtosis is approximately 3, the distribution is normal. Based on this, we can conclude that there is a normal distribution among the variables used in the analysis.

6.2 Unit Root

The unit root test which analyzes the stationarity of the data and how scattered or clustered they are around the mean is presented in the image below. For ease of analysis, this was presented as a line graph.

Looking through this image, we can see that most of the variables are stationary at 1st difference as they seem to be evenly scattered around the mean value.
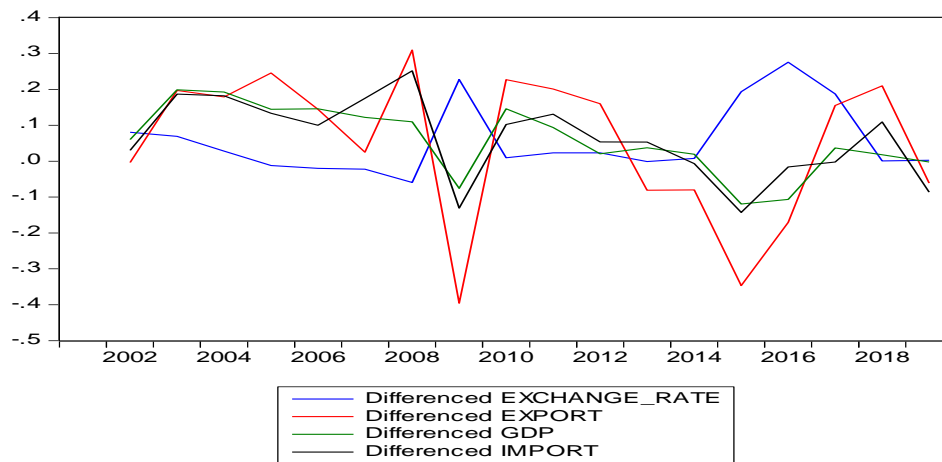

Figure 1. Showing unit root test of the differenced variables used in the analysis.
Source: E-views 11 unit root test output.

6.3 Regression Result

Table 2. Showing the regression result of the analyzed data

Dependent Variable: GDP
Method: Least Squares
Date: 07/28/20   Time: 17:47
Sample: 2001 2019
Included observations: 19

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-10.09588	0.553126	-18.25239	0.0000
EXPORT	0.079788	0.106455	0.749494	0.0452
IMPORT	0.858587	0.113299	7.578041	0.0000
EXCHANGE_RATE	-0.073673	0.058344	-1.262728	0.0260

R-squared	0.986800	Mean dependent var		7.157864
Adjusted R-squared	0.984160	S.D. dependent var		0.379979
S.E. of regression	0.047823	Akaike info criterion		-3.057962
Sum squared resid	0.034305	Schwarz criterion		-2.859133
Log likelihood	33.05064	Hannan-Quinn criter.		-3.024312
F-statistic	373.7918	Durbin-Watson stat		1.904971
Prob(F-statistic)	0.000000			

Source: E-views 11 regression result.

6.3.1 Interpretation of Regression Result

The result obtained from the regressed model ($LogGDP_t = \beta_0 + \beta_1 LogEXGR_t + \beta_2 LogEXP_t + \beta_3 LogIMP_t + \mu_t$) shows that there existed a positive relationship between GDP (index used in measuring the economic growth rate of developing

countries), Import (index used in measuring imports by the developing nations), and Export (index used in measuring exportation of goods by developing countries). While there existed a negative relationship between the GDP of these developing nations and the Exchange Rate.

6.3.2 Full Analysis of the regression result

In terms of exports, a unit increase in exportation (EXPORT) of commodities by developing countries will lead to 0.08 units rise in their gross domestic earnings (GDP) and vice-versa.

In terms of Importation, a unit increase in the rate of import (IMPORT) of goods and services (and in this regard, capital goods) will lead to an increase in gross domestic earnings (GDP) of these nations by 0.86 and vice versa.

While on the other hand, an increase in the exchange rate will lead to a decline in the gross domestic earning (GDP) of these nations by 0.07units and vice-versa.

As regards other indexes as seen in the regressed result, the Durbin Watson statistics of 1.90 which is approximately 2 indicates that there is zero (0) autocorrelation in the model.

The probability of the regressed data also shows that the series differenced are statistically significant and can be relied upon to draw conclusions, which can also be used for policy recommendations. According to the rule of thumb, when the p-values are less than 0.05, the variables are statistically significant and can be used to explain the dependent variable (GDP).

The adjusted R-Squared show that the model is a good fit with 0.98 (98%) changes in GDP accounted for by a change in the independent variables specified in the model. The implication of this is that 98percent of the change in GDP is being explained by the independent variables.

Further analysis was conducted using the data obtained from the United Nations Conference on Trade and Development (UNCTAD) which shows the contribution of international trade to developing (African) countries. This is to show the graphical representation of the data used for ease understanding for the period between 2000 and 2019. A 15-year forecast was equally conducted that covers the period of 200 to 2035.

Figure 2. Showing the contribution of international trade to the economies of developing countries from 2000 - 2019
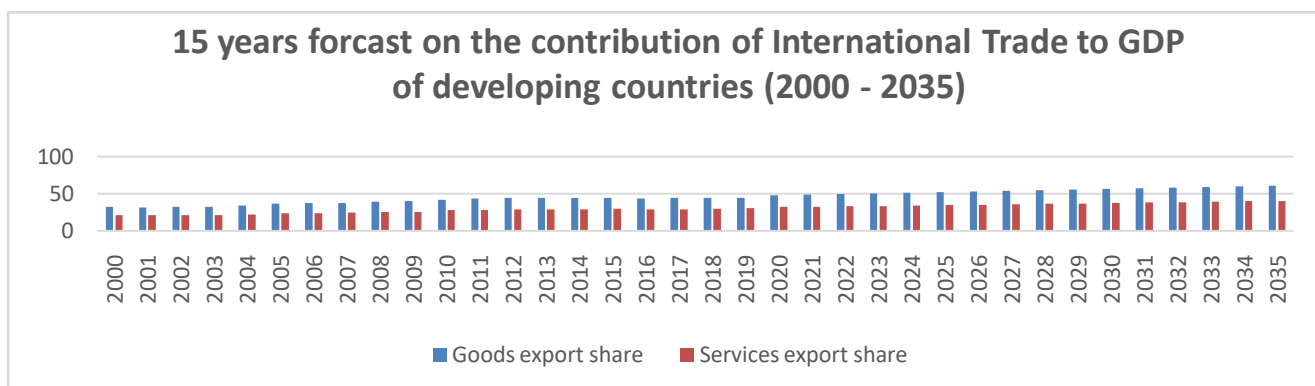
Figure 3. Showing a forecast on the contribution of international trade to the economies of developing countries from 2000 - 2035

As indicated in the bar charts above, we have no choice than to agree through all the pieces of evidence presented and data analyzed that indeed, international trade (export and import) contributes significantly to the economic growth and development of developing (African) countries.

7. Policy Implication of findings
The economic effects and contributions of international trade to the economies of developing nations cannot be overemphasized and based on this; there is a dire need for the government and policymakers of these nations to strategically formulate macroeconomic policies that would promote international trade in their region. These policies should reflect their political will, commitment, and patriotism to develop their regions through the implementation of export promotion strategies and policies by engaging monetary, fiscal, and other internal structures and policies that would drive this agenda.

8. Policy Recommendations
Based on the findings of this research work, this study recommends the below.
- That the various governments of developing countries should thrive towards formulating friendly and pro-active export promotion policies. These policies should be targeted towards increasing her production and manufacturing strengths. This can be achieved by encouraging and helping small and medium scale enterprises in their various regions.
- Grants, aids, subsidies, and loans should be given to SME's in the country with specific targets to certain sectors such as agriculture, service industry, textile, and hospitality. They should also be made readily available and remove all bureaucracies discouraging SME's from assessing it.
- As regards the agricultural sector, more attention needs to be given by the governments of these (developing) nations. This is because the agricultural sector has a higher multiplier effect than most sectors of the economy. In addition to these, these developing African countries have a higher comparative advantage in the production of cash crops than most countries in the world. This can be attributed to their fertile land, favorable weather conditions, a higher percentage of untapped natural resources than most countries of the world, and many more.
- The governments of these countries should adopt a flexible exchange rate and possibly, a uniform exchange rate for their region. This will give them a unified front like what the European Union/countries have in place. Through this, the frequent and unfavorable changes in the rate of exchange of these countries will be significantly reduced. This unified front will give them an advantage in determining the rates and prices when trading with these developed European nations.
- Export duties and tariffs should be reduced to its minimum to encourage not just production, but equally exportation of cash crops and commodities of high demand in the international market.
- Furthermore, this paper recommends that an import-substituting strategy should equally be reviewed and implemented by these nations. This can be augmented by increased imposition of high-income duties on commodities imported into the country that are produced in the country. The implication of this is to standardize the production of commodities that are being imported into the county. It is worth noting that some of the commodities imported by are equally produced in these countries, but they may not be up to the standard of those imported. Hence, there is a need for governments to redesign and upgrade the quality of these products.

9. Conclusion
Based on the result of the study, this paper concludes that
- International trade has the potential of driving the needed macroeconomic goals and long-term development of the economies of developing nations.
- In achieving the needed change and macro-economic transformation, developing countries should adopt a flexible exchange rate that fosters international trade.
- Expansionary monetary and fiscal policies should equally be adopted by these (developing) countries as this would encourage small and medium scale enterprises in their regions.
- As part of the key drivers of economic development, these countries must adopt and make available single digits interest collateral-free loans to SME's especially those in strategic sectors such as Agriculture.

- In addition, the availability of grants, aids, and technical pieces of training should be easily accessible to these economic agents as this has a positive influence on international trading activities that would contribute significantly to reduce the high unemployment rate, vicious poverty cycle, increased living standards, increased per capita income, etc in these nations.

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