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Effect of Imports and Exports on Balance of Foregin Trade in Nigeria (GDP)

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Abstract

This study investigates specifically the effect of Imports and Exports on Balance of Foreign Trade in Nigeria (GDP). Data were collected for period 2007 – 2016. Multiple Regressions Approach and Correlation Analysis was used, defining Imports, Exports and Openness as independent variables and Gross Domestic Product (GDP) as dependent variable. From the analysis, Imports, Exports and Openness contributes immensely to the Nigeria Gross Domestic Product (GDP). Contrary, Imports is positively and significant on Balance of Foreign Trade in Nigeria (GDP), Exports has positively and insignificant on Balance of Foreign Trade in Nigeria (GDP) and Openness has positively and insignificant on Balance of Foreign Trade in Nigeria (GDP). Also, there is a perfect positive association on gross domestic product between imports on the balance of foreign trade in Nigeria and it is significant, with a perfect positive association on gross domestic product and imports between exports on the balance of foreign trade in Nigeria and it is significant and there is a negative moderate association on gross domestic product, imports and exports between openness on the balance of foreign trade in Nigeria and it is insignificant. This study therefore recommends that Nigeria should enhance her Imports & Exports promotion strategies and expanding the Import sector for easy importation.
Keywords: Imports; Exports; Openness; Balance of foreign trade; GDP; Nigeria.

1. Introduction

Foreign trade has become more important to our economy in recent years. Exports and imports of goods and services have grown rapidly. A growing trade volume benefits our standard of living in several ways (Mcteer, 2008). Despite the question that whether international trade will lead to higher economic growth is an old question which has been discussed among exports supporters and protectionists with evidences that theorists of both sides have affected policymaking in different countries with different levels of development from the time of Adam Smith, John Stuart Mill, and Keynes up to now (Mehrara *et al.*, 2012), for most Asian countries, since foreign trade plays an important role in their economies, these are worrying times (Economic Intelligence Unit, 2008).

Trade is touted as an outlet that lubricates the production engine and promotes economic growth of a country. The role of trade in promoting industrialization and economic growth cannot be overemphasised. This is because, foreign trade provides impetus for industrial development by enlarging market frontiers for domestic industrial output (exports), thus leading to increased investment, employment, output, and income. Also, foreign trade expands production possibility frontiers and broadens the consumption basket of the people in the participating countries, thereby improving their welfare (Adewuyi and Adeoye, 2008).

According to Abou-Strait (2005), export is a catalyst necessary for the overall development of an economy. This increases the earnings of the country, thereby creating an avenue for growth by raising the national income of the country. It also increases the level of employment in the economy as higher demand for exports requires more production which in turn leads to employment of more people. Exportation also helps a country attain a favourable balance of trade and balance of payment position provided exports reasonably exceed imports.

Osuntogun *et al.* (1997), discovered that the core of the export-led strategy is the diversification of export products and export markets to minimize risks and ensure a more stable and sustainable current account position.

Opara (2010) posited that exports are the bed-rock of any economic development which is meaningfully centred on non-oil export in most countries of the world. Adding that promoting non-oil export will bring about a reduction of a nation's level of dependence on crude oil or what the study describes as, "monocultural foreign trade product".

Olopoenia (1985) observed that foreign investment could be seen as an additional factor of production and as a supplement to the national savings effort of the capital importing country. This is meant to relax both the foreign exchange and savings constraint on the rate of growth of output in the recipient country.

According to the Office for National Statistics (2013) & Australian Bureau of Statistics (1998) GDP may be measured using production, income and expenditure approaches. The expenditure-based measure of GDP is derived as final consumption expenditure by government and households, plus investment in fixed capital formation and changes in inventories, plus exports minus imports of goods and services, plus (or minus) the statistical discrepancy. Exports and imports are the same as the balance of payments components, exports and imports of goods and services.

Ricardo *et al.* (2005), argued that Foreign Direct Investment (FDI) provide a path for emerging nations to export the products developed economies usually sell, in effect increasing their export sophistication. Many developing countries pursue FDI as a tool for export promotion, rather than production for the domestic economy. Typically, foreign investors build plants in nations where they can produce goods for export at lower costs.

Over several past decades, the economies of the world have become increasingly dependent (linked), through expanded international trade in services as well as primary and manufactured goods, through portfolio investments such as international loans and purchases of stock, and through Foreign Private Investment, especially on the part of large multinational corporations. Developing countries are importing and exporting more from each other as well as from the developed countries and some parts of the developing world, especially East Asia but notably Latin America. More investments have poured in from developed countries such as the United States, the United Kingdom and Japan (Todaro and Smith, 2006).

Asiedu (2002) noted that the impact of openness on FDI depends on the type of investment. Market-seeking and non-market seeking Foreign Private Investment are expected to respond differently to openness of a host economy. He further explained that when investments are market-seeking, trade restrictions (and therefore less openness) can have a positive impact on FPI. The reason stems from the ―tariff Jumping‖ hypothesis, which argues that foreign firms that seek to serve local markets may decide to set up subsidiaries in the host country if it is difficult to import their products to the country.

Confirming this position, Gorman (2003) presented a mathematical formula for gross domestic product, $C + I + G + (Ex - Im)$. The expression $(Ex - Im)$ equals net exports, which may be either positive or negative. If net exports are positive, the nation's GDP increases. If they are negative, GDP decreases. Gorman equally posits that though all nations want their GDP to be higher rather than lower, so all nations want their net exports to be positive, it is not possible for all nations to have positive net exports because one or more nations must import more than they export if the others export more than they import.

For more than a half century, the most widely accepted measure of a country's economic progress has been changes in its Gross Domestic Product (GDP). The GDP has maintained a firm position as a dominant economic indicator. Indeed, most economists in business and government, teachers of economics at various levels of education, and journalists, policy makers and politicians (regardless of their political preferences) continue to give much importance to GDP and calling for unconditional GDP growth (Jeroen and van den Bergh, 2009).

Obadan (1994), also noted the high inflation rate reduces international competitiveness of exports, foreign exchange earnings and puts pressure on current account and exchange rates. In short, high inflation rates may be considered as indicator of macroeconomic instability and a country 's inability to control macroeconomic policy, both to which contribute to an adverse investment climate.

Umo (2007) observed that Nigeria 's external trade (exports and imports) constitutes a substantial component of her GDP and both exports and imports have grown explosively over the last four decades. He furthered the work by saying that a good proportion of the import trade of Nigeria is on non-oil items---such as foods, raw materials, capital goods, etc., while, the export trade of Nigeria is on primary goods---such as, crude oil, raw materials, staple foods and food stuffs. Even though, it has been said that foreign trade is against the developing countries (Nigeria), but it is critically important for the survival of the Nigeria economy.

As a part of balance of payments, balance of trade refers to the export and import of visible items, i.e., material goods. It is the difference between the value of visible exports and imports. Visible items are those items which are recorded in the customs returns; for example, material goods exported and imported. If the value of visible exports is greater than that of visible imports, the balance of trade is favourable. If the value of visible imports is greater than that of visible exports the balance of trade is unfavourable; if the value of visible exports is equal to that of visible imports, the balance of trade is in equilibrium. Balance of trade is also known as merchandise account of exports and imports (Preserve Articles, 2012).

Batra and Pattanaik (1970) stated that there is at least a tacit agreement on the point that deterioration in terms of trade itself is undesirable and that it leads to a decline in national income, but added that such does not necessarily result in loss of welfare especially if factor markets are imperfect.

Singh (2010), observed that trade is one of the several catalysts of productivity and growth and hence its contribution is contingent on its weight in the aggregate economic activity. The knowledge of this has helped many nations achieve economic growth and development. In light of this, the Nigerian economy left import substitution policies for the export promotion strategies or export-led growth approach.

Adenugba and Dipo (2013), asserted that when the demand for exports is high more production is required, this therefore creates more employment, raises national income and also helps attain a favourable balance of trade and balance of payment position for the exporting economy. This underlines the importance of exports in the growth of an economy.

Omjimite and Akpolodje (2010), also asserted that the dependence of Nigeria on crude oil exports has serious implications for the Nigerian economy since the oil market is a highly volatile one. For example, being dependent on the export of crude oil, the Nigerian economy is subject to the vicissitudes and vagaries of the international oil market such that international oil price shocks will immediately be felt in the domestic economy.

2. Methodology

The data used for this study were basically annual time series data covering 2007 to 2016. The data used for both dependent (Gross Domestic Product) and independent (Exports, Imports and Trade Openness) variables were obtained from Central Bank of Nigeria. The OLS technique; Multiple Regressions and Correlation analysis was used to examine the relationship between Gross Domestic Product (GDP), Exports (EXP), Imports (IMP) and Trade Openness (OPEN).

2.1. Model Specification

The model to capture the effect of Imports and Exports on Balance of Foreign Trade in Nigeria (GDP) variables are stated below with the independent variables as Imports (IMP), Exports (EXP) and Trade Openness (OPEN) while the dependent variable is Gross Domestic Product.

This is expressed functionally as

$$GDP = f(IMP, EXP, OPEN) \qquad (1)$$

$$\text{Where: } IMP = \text{Im} \, ports$$

$$EXP = Exports$$

$$OPEN = Trade\ Openness$$

$$GDP_t = \beta_0 + \beta_1 \, IMP_t + \beta_2 \, EXP_t + \beta_3 \, OPEN + \mu_t \qquad (2)$$

$$\beta_0 = \text{Intercept}$$

$$\beta_1 - \beta_2 - \beta_3 = \text{Coefficient of the independent variables}$$

$$\mu_t = \text{White noise or error term}$$

2.2. The Apriori Expectation

It is anticipated that: $\beta_1, \beta_2, \beta_3 > 0$

2.3. Source of Data

Annual time series data were utilized to investigate the relationship between the effect of Imports and Exports on Balance of Foreign Trade in Nigeria (GDP). All the data patterning to the chosen variables were obtained from the Central of Nigeria (CBN) over the period 2007 – 2016.

3. Data Presentation

The data for this study on the statistical variables are presented below:

Table-4.1. Results of the Estimated Model

Year	GDP	Imports	Exports	Open
2007	634.25	4,127,689.93	6,881,501.33	3,044.77
2008	5.98	42,816.17	88,650.77	3,503.18
2009	6.96	33,322.34	58,175.40	4,082.35
2010	7.98	50,117.97	80,579.38	8,992,649.98
2011	15.32	66,775.80	99,878.08	10,325,565.30
2012	13.87	57,396.04	96904.91	11,843,529.17
2013	11.68	55,248.59	97818.23	13,702,835.12
2014	11.18	61,536.22	82586.11	15,704,127.45
2015	5.73	52,334.76	45887.74	18,028,895.26
2016	7.80	35,239.95	34703.90	20,675,860.01

Source: Central Bank of Nigeria

The effect of Imports, Exports and Openness (measured by Imports, Exports and Openness) on Balance of Foreign Trade in Nigeria (GDP) (Measured by Balance of Foreign Trade (Gross Domestic Product))

Table-4.2. Multiple Regressions

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	1.000[a]	1.000	1.000	2.62585	1.667

Table-4.3. Result of the estimated model

Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.601	1.682		.952	.373
	IMPORTS	.000	.000	1.000	201.328	.000
	OPENNESS	2.379E-8	.000	.001	.186	.858

a. Dependent Variable: GROSS DOMESTIC PRODUCT

Excluded Variables'

	Model	Beta In	t	Sig.	Partial Correlation	Collinearity Statistics Tolerance
1	EXPORTS	1.236	1.513	.181	.526	2.486E-5

a. Dependent Variable: GROSS DOMESTIC PRODUCT
b. Predictors in the Model: (Constant), OPENNESS, IMPORTS

The effect of Imports, Exports and Openness (measured by Imports, Exports and Openness) on Balance of Foreign Trade in Nigeria (GDP) (Measured by Balance of Foreign Trade (Gross Domestic Product))

Table-4.4. Correlation Analysis

Correlations

		Gross Domestic Product	Imports	Exports	Openness
Gross Domestic Product	Pearson Correlation	1	1.000**	1.000**	-.452
	Sig. (2-tailed)		.000	.000	.190
	N	10	10	10	10
Imports	Pearson Correlation	1.000**	1	1.000**	-.453
	Sig. (2-tailed)	.000		.000	.189
	N	10	10	10	10
Exports	Pearson Correlation	1.000**	1.000**	1	-.458
	Sig. (2-tailed)	.000	.000		.183
	N	10	10	10	10
Openness	Pearson Correlation	-.452	-.453	-.458	1
	Sig. (2-tailed)	.190	.189	.183	
	N	10	10	10	10

**. Correlation is significant at the 0.01 level (2-tailed)

4. Discussions of Findings

From Table 4.2 above, the result shows that all the explanatory variables significantly effect on Nigeria Gross Domestic Product. It could be also observed that Imports on balance of Foreign in Nigeria GDP contributes 0.000 Meaning that for every unit change of Imports there is a corresponding unit change of 0.000, showing a significant relationship between Imports and balance of Foreign Trade in Nigeria GDP since the p – value is less than 0.05. Therefore, the result revealed that Imports is significantly affecting the balance of Foreign Trade of the Nation. The result of Exports also shows that Exports on Nigeria GDP contributes 1.236 This means that for every unit change in Exports there is a corresponding unit change of 1.236 on Nigeria GDP, showing a significant relationship between Exports and balance of Foreign Trade in Nigeria GDP since the p – value is above 0.05. Therefore, the result revealed that Exports is insignificantly affecting the balance of Foreign Trade of the Nation.

The result of Openness also shows that Openness on Nigeria GDP contributes 2.379E-8 This means that for every unit change in Openness there is a corresponding unit change of 2.379E-8 on Nigeria GDP, showing insignificant relationship between Openness and balance of Foreign Trade in Nigeria GDP since the p – value is above 0.05. Therefore, the result revealed that Openness is insignificantly affecting the balance of Foreign Trade of the Nation.

The coefficient of determination (R^2) of the multiple regressions is 1.000, which implies that the explanatory variables which are Imports, Exports and Openness have high effect on balance of Foreign Trade in Nigeria GDP. This means that the effect of Imports, Exports and Openness on balance of Foreign Trade in Nigeria GDP explain or account 1% influence or movement on balance of Foreign Trade in Nigeria GDP. The Adjusted R^2 of 1.000 is the same with R^2 value of 1.000 meaning that the model is fit for making a generalization. Furthermore, looking at the D.W of 1.667 shows an absence of positive auto correlation among the variables in the model. Finally, looking at the p-value of Imports, Exports and Openness is < 0.05 at 5% degree of freedom. Therefore, the study concluded that there is a positive significant relationship between effect of Imports, Exports and Openness and balance of Foreign Trade in Nigeria (GDP). All explanatory variables (Imports, Exports and Openness) were significantly joint predictors of balance of Foreign Trade in Nigeria. For instance, Imports is positive and significant to balance of Foreign Trade in Nigeria (GDP). This implies that an increase in Imports will boost balance of Foreign Trade. We found that Imports had a positive effect on balance of Foreign Trade in Nigeria (GDP). The overall result of effect of Imports, Exports and Openness on balance of Foreign Trade in Nigeria (GDP) indicates a positive significant relationship with balance of Foreign Trade in Nigeria (GDP). Finally, we found a positive significant relationship between effect of Imports, Exports and Openness and balance of Foreign Trade in Nigeria (GDP).

The result of the correlation analysis presented in Table 4.4, showed that there is a perfect positive association on gross domestic product between imports on the balance of foreign trade in Nigeria with a correlation coefficient measure of 1% and with significant value of 0.000. Also, with a perfect positive association on gross domestic product and imports between exports on the balance of foreign trade in Nigeria with a correlation coefficient measure of 1%,1% and a significant value of 0.000, 0.000. Finally, there is a negative moderate association on gross

domestic product, imports and exports between openness on the balance of foreign trade in Nigeria with a correlation coefficient measure of -45.2%, -45.3% and -45.8% and with an insignificant value of 0.190, 0.189 and 0.183. This result implies that the association between gross domestic product, imports, exports and openness on the balance of foreign trade in Nigeria (GDP) is negative moderate association with an insignificant difference. Meaning accepting H_0 Thus P > 0.01. This indicates that imports, exports and openness has no significant difference on balance of foreign trade in Nigeria (GDP). This study concludes that despite the ability of a nation to finance its total Exports from total Imports (that is total Imports exceeds total Exports) resulting into surplus balance of trade, unalloyed consideration is given majorly to specific effects of dichotomised international trade activities (Imports, Exports and Openness activities). This study recommends that Nigerian government should borrow leaves from countries in order to finance their Imports (goods and services) for the Nations Imports base by facilitating and expanding the Import sector.

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