

The Nexus between Real Export Growth and Economic Growth in Nigeria

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Abstract:- This study examined the relationship between real export growth and economic growth in Nigeria. The source of data used in this study was secondary data obtained from African Development Bank Group. The Mann-Whitney U test and the Spearman's Correlation Analysis were the statistical tools used in this study. The findings of the study showed that the mean rank of real GDP growth is higher than the real export growth. Findings showed that real export growth does not impact on real economic growth in Nigeria. Also, it was found that a positive weak linear relationship exists between real economic growth and real export growth in Nigeria.

Keywords: Export Growth, GDP Growth, economic growth, Mann-Whitney U test

I. INTRODUCTION

Since the start of the new millennium and most especially with the recent economic crunch experienced by most countries of the world especially the affected developing economies like Nigeria. Researchers and economists have often call for the need for countries in the world to diversify their economy thereby expand their source of foreign earning. Developing countries such as Nigeria have over the years been exporting mostly primary goods as one of the few avenues to sustain and contribute to the Country's per capital growth rate.

The Nigerian export is disaggregated in two the oil and non oil export and these are the major sources of Nigeria's foreign exchange earnings (Mustapha 2010). The over dependency of the Nigerian economy on oil export has classified it as a mono-product economy. The Oil sector has been found to account for more than 90% of total export in Nigeria, whereas the non-oil sector accounts for less than 10% of the total export.

Economic scholars have often investigated the relationship between exports and economic growth. This is because there are different ways through which export diversification can generally contribute to increased economic growth. Export growth often lead to increased scope of economies of scale (Abdulai and Jaquet, 2002). Economies of scale is a product of enlargement of market size due to efficient allocation of resources and competitiveness of exporting firms. Increased export also positively impact on aggregate output by relaxing foreign exchange constraint. Hence, the need for the present study to examine the relationship between real export growth and economic growth in Nigeria.

II. LITERATURE REVIEW

Samson and Abdulwahab (2014) examined the impact of aggregate non-oil sector on economic growth in Nigeria. They explained the need for diversification of the Nigeria economy arose from the huge impact of the global economic recession experienced by Nigeria. They added that the over dependency on the oil export revenue has exposed the Nigeria economy to external shocks which in turn cripples economic growth of the nation. Their study employed the bound test approach to examine the long and short run effects of the non-oil export and its ensuing determinants. The findings of the study showed that there exist significant impact of non-oil export on economic growth in both the long and short run in Nigeria.

Also, Samson and Abdulwahab (2014) noted that in case of Saudi Arabia, findings showed that the non-oil exports have positive impact on export price, industrial production, and population. Though, population growth was found to have a negative impact on real per capita income while exchange rate was found to be insignificant in the model. In conclusion, the study suggests that export contributes to economic development and stated the need to increase the impact of the non-oil sector on economic development in Saudi Arabia.

Olayiwola and Okodua (2010) in their study evaluated the relationship that exist amongst foreign direct investment, non-oil exports and economic growth in Nigeria using granger causality test. The finding of the reveals that in the long-run, foreign direct investment will positively impact on economic growth in Nigeria. It was found that foreign direct investment inflows in Nigeria will impact positively on non-oil export in the long-run.

Enoma and Isedu (2011) examined the impact of financial sector reforms on non-oil export in Nigeria using the multiple regression techniques. The findings of the study showed that the non-oil price and money supply significantly impacts on at one percent level of significance, money supply was equally significant at one percent. While interest rate and exchange rate were significant at five percent. Their conclusion and recommendation were that there exists a long run relationship between non-oil export supply and financial sector parameters, namely, money supply exchange rate and interest rate.

Olasode *et al* (2013) examined the impact of Oil, manufacturing and agricultural share of total exports of

Nigeria on economic development and welfare. The findings of the study shows that all the variables used in the study are stationary at first differenced and also the Johansen co-integration test confirm the existence of a long- run relationship between the variables. The result of the granger casualty test indicated that there is a uni-directional relationship between per Capita income and all the variables apart from Agricultural share of export which exhibits a bi-directional causal effects.

III. METHODS AND MATERIAL

3.1 Method of Data collection

Secondary source of data collection was adopted for this study with data obtained from African Development Bank Group publication 2018. The data comprises of the real GDP growth and real export growth from 1981-2018.

3.2 The Mann-Whitney U test

This is the non-parametric counterpart or equivalent of the independent sample t-test for equality of means. It is appropriate for use with independent samples designs and it is based on a statistic U which is linked to the sum of the ranks of each of the condition. When the number of observation are small and only two samples are available, the first thing that comes to mind would be to use the standard error-based t-test. But the t-test assumes that the populations from which the samples are taken should be normally distributed, which is not the case for survey instrument since the number of observations are small and have categorical responses; therefore, the t-test cannot be used. Instead, the Mann-Whitney U test will be appropriate. The Mann-Whitney U test

assumes that the samples are independent and from dissimilar populations.

The computation of the U statistic will depend on the samples' sizes.

$$U_1 = n_1n_2 + \frac{n_1(n_1+1)}{2} - w_1 \tag{1}$$

$$U_2 = n_1n_2 + \frac{n_2(n_2+1)}{2} - w_2 \tag{2}$$

The test statistic U will be the smallest of U_1 and U_2 , where W_1 and W_2 are the sum of the ranks for group 1 and 2 respectively. If any or both of the sample sizes is greater than 10, then U will be approximately normally distributed and we could use the Z transformation with

$$\mu = \frac{n_1n_2}{2} \tag{3}$$

$$\sigma = \sqrt{\frac{n_1n_2(n_1+n_2+1)}{12}} \tag{4}$$

$$Z = \frac{(U-\mu)}{\sigma} \tag{5}$$

Decision Rule: The decision rule is to reject the null hypothesis when the P-value is less or equal to the $\alpha=0.05$, otherwise, accept the null hypothesis.

3.3 Data Presentation

Table 1: Summary of Financial Deepening Parameters and the Various Administration of the 4th Republic in Nigeria

Year	Real GDP Growth(%)	Real Export Growth (%)	Year	Real GDP Growth(%)	Real Export Growth (%)
1981	20.84	-29.02	2000	5.32	18.84
1982	-1.05	-25.43	2001	8.16	-4.45
1983	-5.05	-6.61	2002	21.18	-10.66
1984	-2.02	19.07	2003	10.34	32.21
1985	8.32	10.21	2004	10.59	3.13
1986	-8.75	4.28	2005	6.51	-5.15
1987	-10.75	-19.05	2006	6.03	-2.93
1988	7.54	6.85	2007	6.45	3.82
1989	6.47	20.24	2008	5.98	-4.39
1990	12.77	11.82	2009	6.96	2.34
1991	-0.62	2.39	2010	10.6	10.83
1992	0.43	1.62	2011	4.9	-9.49
1993	2.09	-5.54	2012	4.3	-3.71
1994	0.91	0.35	2013	5.4	2.71
1995	-0.31	7.78	2014	6.3	-8.57
1996	4.99	13.73	2015	2.8	4.26
1997	2.8	8.46	2016	-1.5	-10.34
1998	2.72	-7.2	2017	0.77	6.14
1999	0.47	-4.65	2018	2.1	8.31

Source: African Development Bank Group, 2018

IV. DATA ANALYSIS AND RESULTS

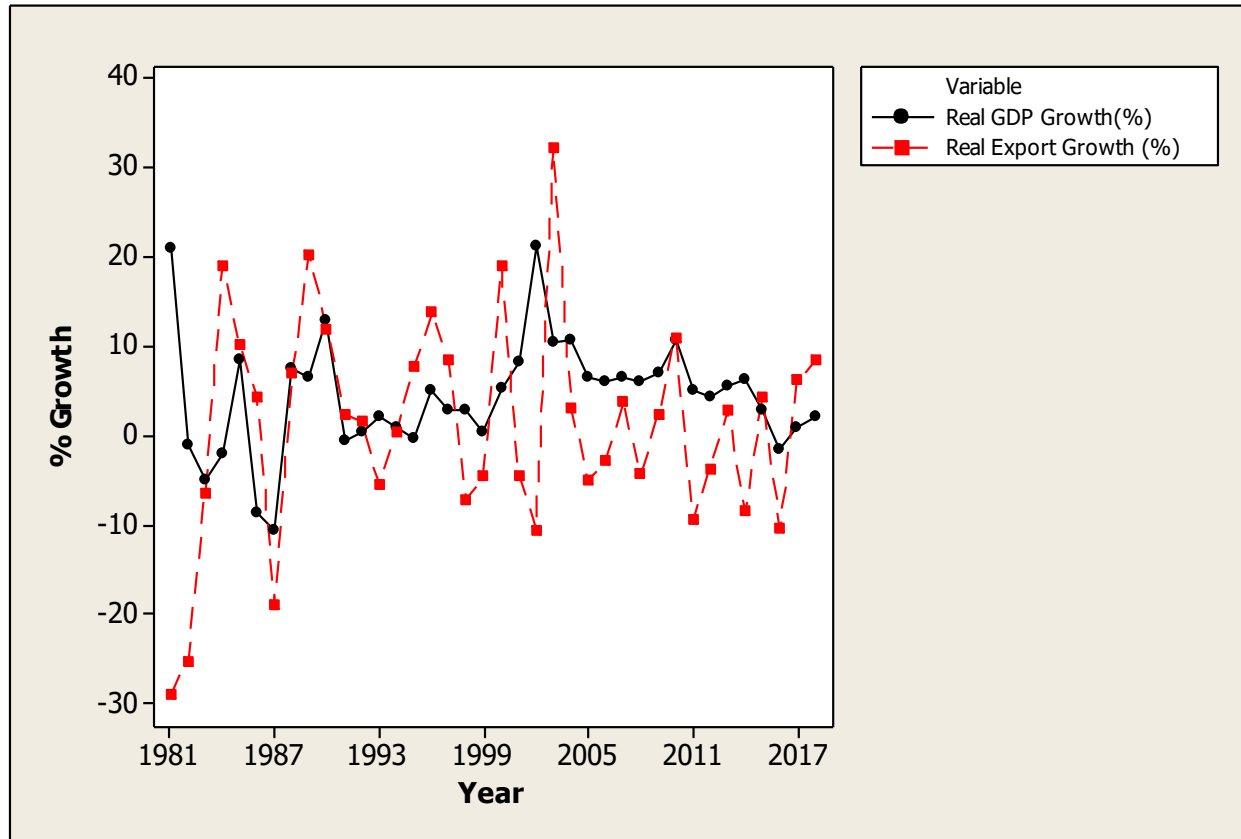


Figure 1: Plot showing distribution of real growth of GDP and export in Nigeria

The result obtained in figure 1 shows the distribution of real economic growth and export growth in Nigeria from 1981 to 2018.

Table 2: Rank Analysis of Real GDP Growth and Real Export Growth

	Group	N	Mean Rank	Sum of Ranks
Response	Real GDP Growth	38	42.05	1598.00
	Real Export Growth	38	34.95	1328.00
	Total	76		

The result of table 2 showed that the mean rank of real GDP growth of 42.05 is higher than real export growth of 34.95.

Table 3: Test Statistic of Real GDP Growth and Real Export Growth

	Response
Mann-Whitney U	587.000
Z	-1.402
Asymp. Sig. (2-tailed)	.161
a. Grouping Variable: Group	

The result of table 3 found a Mann-Whitney U value of 587.00 and a p-value of 0.161. The null hypothesis was not rejected since the p-value of 0.161 is greater than the critical value of 0.05. This result implies there is no significant difference between Real economic growth and export growth in Nigeria.

Table 4: Test result of relationship between Real GDP Growth and Real Export Growth

		Real_Export_Growth	
Spearman's rho	Real_GDP_Growth	Correlation Coefficient	.182
		Sig. (2-tailed)	.275
		N	38

The result obtained in table 4 found a correlation coefficient of 0.182 and p-value of 0.275 which falls on the acceptance rejection region of the hypothesis. This result indicates the existence of a positive weak linear relationship between real economic growth and real export growth in Nigeria.

V. CONCLUSION

This study examined the relationship between real export growth and economic growth in Nigeria. Experts in the field

of economics have often argued the role of increasing export through diversification of an economy as an effective measure of sustaining an economy like that of Nigeria which since the 1970's have solely depended on export of crude oil as a major of generating government revenue and relaxing foreign exchange constraint. The findings of the study showed that the mean rank of real GDP growth is higher than the real export growth. Findings showed that real export growth does not impact on real economic growth in Nigeria. Also, it was found that a positive weak linear relationship exists between real economic growth and real export growth in Nigeria. Based on the findings of this study, it is evident that the diversification plan embarked by the Nigerian government is yet to yield significant growth to impact on economic growth.

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