IMPACT OF FOREIGN DIRECT INVESTMENT (FDI) ON EXPORT PERFORMANCE IN NIGERIA (1970-2018)

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ABSTRACT

This paper evaluates the impact of foreign direct investment on export in Nigeria using data for the period from 1970 to 2017. Foreign direct investment (FDI) is viewed as an essential factor in promoting export and economic growth, especially in developing countries. However, the impact of FDI on export was debated by the advocates and the opponents of the FDI. The study reviews study on the impact of FDI and also develops a model which was used to study the relationship using Nigerian data. An ARDL was used to examine the relationship. The paper found that although FDI does not have a significant direct influence on export, the growth in the economy does. This paper concludes that FDI has an indirect significant impact on the export performance of the economy.

Keywords: Foreign direct investment, export, Nigeria

1. INTRODUCTION

Policymakers, especially in developing nations, are of the view that foreign direct investment (FDI) is critical in promoting export and economic growth of an economy, however, the connection between FDI and economic growth are uncertain Inekwe (2014) argued. The advocates of the FDI argued that it promotes exports of the host countries by rising the productivity, capital stock, transfer of technology, managerial skills and improving the proficiency of the local workforce (Adewumi, 2006).

Nigeria is one of the major recipients of FDI in Africa in the past decades. Muntah, khan, Haider and Ahmad (2015) suggest that FDI contributes extensively in the human capital development, capital formation and organization and managerial capacity of the people in an economy. Melnyk, Kubatku and Pysamke (2014) who studied the impact of FDI on economic growth in post-communist transition economies found a significant influence of FDI on the economic growth of the host country (Ayanwale, 2007). The economic prospects and development of developing countries like Nigeria depend significantly on international interdependence. The Nigerian economy is characterised by large foreign sectors. Yet, in the past decade, the degree of openness of the economy has increased significantly. The government observed that instead of encouraging its domestic production and export Nigeria is relying on imports.

It has been recognized that export is critical for growth as it increases foreign exchange earnings, improves the balance of payment position, creates employment, improves government revenue through taxes levied and tariffs (Olayiwola & Okadua, 2009). Export is an important part of international trade and the earnings from the export of goods is essential to economic growth. These earnings directly contribute to investment which in turn form the basis of economic growth.

The impact of export and FDI on economic growth has been debated over the years by economist and policymakers. This could have prompted numerous studies on the determinants of export, particularly in developing countries. However, there are many studies on the impact of FDI on Nigeria's economic performance. This study differs as it examines the impact of FDI on Nigeria's export performance to assess the effect of the FDI on the export volume in Nigeria.

The relationship between FDI and export growth has been a relevant issue for some decades. Policymakers in many countries including Nigeria are engaged in creating various incentives e.g. export processing zones, and tax incentives to draw FDI as it is seen to have a positive impact on local economic development. Nevertheless, empirical findings are inconsistent and conflicting, particularly for developing countries for which exports are very important.

Nigeria like many other developing nations lacks sufficient capital to fully harness her enormous available natural resources and potentials to the optimum advantage. Hence, there is a need for FDI to bridge the gap required to achieve sustainable growth and development. There has been a deliberate effort by the government towards attracting FDI into the country with a view and aim of improving export and economic performance in general. The impacts that increase FDI inflow has had on Nigeria export performance has not been analysed. There

is, therefore, need to examine the relationship between the two and specifically establish whether any increases in FDI inflow lead to an increase in export performance in Nigeria.
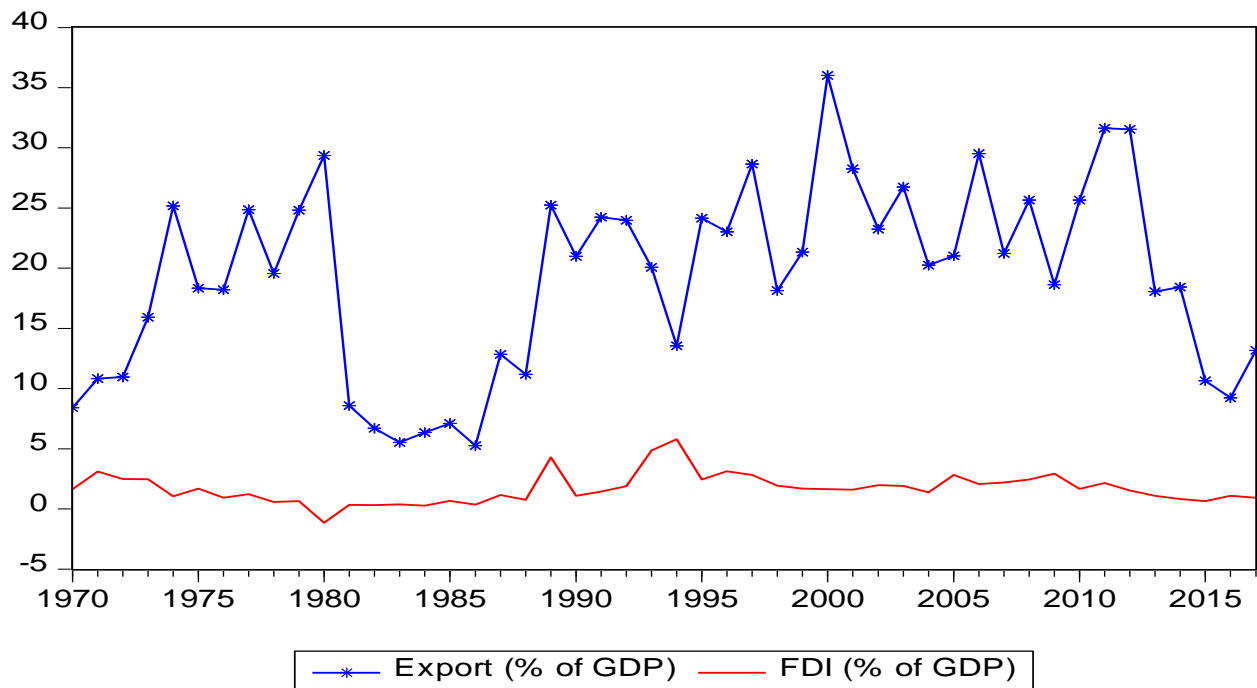

Figure 1: Export and FDI inflow as % of GDP (1970 – 2017)

Sources: Computed from data obtained from World Bank (2019).

Figure 1 above, depicts FDI and export as a percentage of GDP in Nigeria. However, the relationship between export and FDI is not very clear. A Spearman rank correlation test carried out shows positive 0.36. This indicates that indeed there is a positive relationship between the FDI and export. However, correlation is not necessarily causality.

Even though there are numerous studies on the relationship between FDI and export, they produced mixed results. To our knowledge, there are only a few pieces of studies that examine the relationship between the FDI and export in Nigeria. The gaps observed in the literature reviewed are that the impact of FDI inflow on the export is not clear as some studies showed negative relationship while other studies observed a positive impact of FDI on export. Some studies also suggest that the impact of FDI on export depends on the mode and motive of entry. If the motive is to by-pass trade barriers into the local market, it may not necessarily increase export of the country. However, if the motive of the FDI is for comparative advantage in production then it may contribute to export growth. Therefore, the nature of the relationship between FDI and export performance is not clear and could be positive or negative; the maximum sample periods covered by the previous studies are less than 40 years; most of the previous studies examined the impact of FDI on the economic growth of Nigeria with export as supporting explanatory variable.

This study will fill the gap in the literature by complementing the previous studies to investigate the relative impact of FDI on export performance of Nigeria via a multivariate

framework for 48 years employing export, foreign direct investment, exchange rate and output growth using current data.

The broad objective of the study is to assess the impact of foreign direct investment on export performance in Nigeria.

The research will help bring to light the factors that influence export performance especially the effect of FDI. This will contribute to the body of knowledge and also help in policy formulation in Nigeria. Furthermore, research will show how FDIs is absorbed into the export sectors and how they interact with other key determinants of export. This will aid the macroeconomic stimulation and development of the macroeconomic model. Finally, it will also be a basis for future research.

The justification for the chosen period lies in the fact that firstly, civil war came to an end by early 1970 which gave room for the foreign private investors and courage of investing in Nigeria. In addition to that, both military and politicians struggle to build the national economy that suffers for about three years of civil war. Secondly, from 1980s downward, the economy witnessed several policies ranging from SAP in 1986; export processing zones decrees in 1991, Nigerian export-import bank in 1991, investment promotion commission in 1995, national economic empowerment development strategy in 1999, and privatization and commercialization policies of 2007. Finally, the return of democratic rule in 1999 which also witnessed different policy packages (e.g. NEEDs, Vision 2020, 7 point agenda 2007, Transformation agenda 2011 and the Economic Recovery and growth plan all geared towards encouraging both foreign direct investment and improving Nigeria's export sector. This would enable the researcher to find out whether and how FDI and exports are related for Nigeria.

The research would cover the Nigerian economy from 1970 to 2017, focusing on the impact of foreign direct investment on export performance. A detailed discussion would be made on the relationship between export and FDI mainly because of the deliberate government policy direction in attracting FDI with several investment incentives and campaigns.

The remaining part of the paper is divided into five sections. Section two provides a review of both empirical and theoretical literature explaining the relationship between FDI and export performance. Section three discusses the research methodology and data collection procedures used to undertake the study. Section four contains the results and analysis of the result and discussion. Finally, section five gives the conclusion and policy recommendations.

2. LITERATURE REVIEW

2.1 Theoretical Framework

This research adopts the Heckscher-Ohlin-Samuelson model theory as the theoretical framework model. Nigeria has abundant available resources which are wanted across the globe and cheap labour price in the economy. This is one of the major factors that influence foreign investors to come and invest in Nigeria. Besides, the population of the country serves as a potential market development as it is increasing at an increasing rate and another advantage is that of neighbouring countries are also seen as a potential market. Based on these advantages and

factors, private investors came to the nation to take advantage of both resource availability, low cost of labour, market size and neighbouring countries which make the investment profitable.

2.2 Empirical Literature

A significant scholarly effort has gone into the study of the impact of FDI on export performance in Nigeria's economy. Anfofum, Gambo and Suleiman (2013) in their study titled 'Estimating the impact of FDI in Nigeria: An empirical investigation', using GDP, FDI, export, inflation, public expenditure, capital formation as a variable of the study. Causality and Johansen cointegration analysis were used as a tool of analysis. The study which covers the period of 1986-2011, revealed a long run significant relationship between variables while causality result shows unidirectional causality running from FDI to export, supporting Olayiwola and Okadua (2010), Emeka, Fredrick and Peter, (2012) and Dinda (2009) findings. The study finally states that foreign investment and multinational enterprises contribute immensely to the export and economic growth in Nigeria.

Enimola (2011) examines foreign direct investment and export growth in Nigeria using causality and cointegration analysis evidence of unidirectional causality running from FDI to export while the cointegration test shows positive long-run associations. Even though the study covers the period of 30 years (1977 -2008), variables such as exchange rate, and trade openness which are very important in explaining the relationship between export and FDI are not included in the model.

Oyatoye, Arogundade, Adebisi and Olukayode (2011) examines FDI, export and economic growth in Nigeria using ordinary least square (OLS) from 1987 to 2006 and GDP, FDI, Export as variables. Regression result indicates a positive relationship between export and foreign investment. The study concludes that FDI is one of the major determinants of export in Nigeria. Other variables that may contribute to the behaviour of export such as exchange rate and trade openness were not considered in the model.

Olayiwola and Okadua (2010) investigate the contribution of FDI to the performance of non-oil export in Nigeria within the framework of export-led growth (ELG) hypothesis. Using causality analyses, evidence of unidirectional causality is seen and runs from FDI to the non-oil sector. The study employs FDI, export (oil and non-oil), GDP, exchange rate and inflation as a variable, and concludes that the bulk of FDI goes to oil export compared to non-oil export in Nigeria. One major shortcoming of this study is that it breaks export into two while leaving FDI which can also be separated into oil and non-oil FDI.

Dinda (2009) to examine the factors attracting foreign direct investment in Nigeria: An empirical investigation for the period (1970-2006). Using VECM as well as FDI, natural resource export, exchange rate, trade openness and inflation rate as research variables. Though export is used as part of an explanatory variable, the result revealed that resource endowment export significantly determines FDI inflow into Nigeria.

Awe (2009) using the two-stage least square (2SLS) method of simultaneous equation model, examined the impact of FDI on economic growth in Nigeria for the period of 1976-2006. With domestic investment growth, the export growth rate, FDI, exchange rate, inflation and external debt as research variables, empirical findings suggest a positive relationship between FDI and

export. Although export is not a variable of interest, the study concludes that FDI plays a vital role in promoting export and economic growth in Nigeria.

Using cointegration and causality model from 1970 to 2008; export, exchange rate, trade liberalisation index, GDP, FDI, external market access indicator and lag value of export as variables. Enimola (2011) in his study titled 'foreign direct investment and export growth in Nigeria', the empirical result revealed unidirectional causality running from FDI to export and also one cointegrating equation is found in the export equation.

This study intends to fill this gap the scope covered by other previous studies. Other areas to be filled by the study include the variable gap as other researchers did not include exchange rate.

Most of these previous studies reviewed above use the common methodology in their analysis and their empirical results showing the relationship between foreign direct investment (FDI) and export growth revealed a mixed outcome. Studies that use causality test indicate unidirectional response while others indicating the bi-directional response and remaining group report no causality among the variables. On the other hand, the cointegration test suggests the existence of a positive long-run association, while other groups suggest no long-run associations.

Another important point to notice from these literatures reviewed is the use of export in some domestic studies (country of study) as supporting the independent variable, not as a variable of interest. Secondly, export, FDI and GDP are the only three variables used by some studies without including other relevant variables. Thirdly, the scope covered by most of the studies is too short to capture the impact of FDI on export performance.

This study, therefore, would re-examine the impact of FDI in promoting Nigeria's export covering a relatively long period of 48 years, using cointegration autoregressive distributed lag (ARDL) and causality analysis along with export, FDI, exchange rate, and GDP as variables of study which make it different from most of the research reviewed with the expectation of improvement on the previous studies.

3. METHODOLOGY
This section discusses the methodology used in conducting the study and procedures employed in the study. It concerns the type of data and their sources as well as model specification and method of data analysis.

3.1 Sources of Data
The data used in the study are annual time series on export, foreign direct investment, real gross domestic product and exchange rate of Nigeria for 48 years (1970-2017). All the data were sourced from the world bank database.

3.2 Research Variable
The choice of a variable in this study is informed by the fact that Nigeria is a beneficiary of both market and development and export-based investment. The variables that are important for both types of FDI and will likely influence the export performance in Nigeria are employed and the variables are described in Table 1 below.

Table 1: Research Variables (Meaning, Measurements and Expectation)

Variables	Meaning and measurement	Sources	Expectation
EXP	The export (as a % of GDP). Annual Export measured in %.	World Bank database	Export is the dependent variable and major variable of interest in the study.
FDI	Foreign direct investment (inflow % of GDP). FDI which is measured in %.	World Bank database	The apriori expectation is that FDI has a positive impact on export performance.
RGDP	Real gross domestic product	World Bank database	The sign of the coefficient of RGDP is expected to be positive.
EXG	Exchange rate of domestic currency to the US Dollar (annual average). The exchange rate is in Naira (₦).	World Bank database	EXG is expected to have a negative impact on export.

3.3 Model Specification

As observed in the previous section, many studies used cointegration and error correction specification. However, this study will analyse the data and use the most suitable model. This study adopts a similar model but employs a model which takes into consideration the effect of autocorrelation which is a common problem with time-series data. The functional form of the model is used in this study is expressed as follows:

$$EXP = (FDI, RGDP, EXG,) \qquad (1)$$

Where EXP = Export (% of GDP), FDI = Foreign direct investment (inflow % of GDP), RGDP = Real gross domestics product and EXG = Exchange rate.

In an explicit and econometric form, the models can be transformed into the following expression:

$$EXP_t = (\beta_0 + \beta_1 FDI_t + \beta_2 RGDP_t + \beta_3 EXG_t + U_t) \qquad (2)$$

3.4 Estimation Techniques

In this study, we used autoregressive distributed lag. This is due to the characteristics of the data used in the study which are time series data with different level of integration and to be able to examine the long run associations between the variable of interest. For an efficient and accurate estimate of time series data, a series of diagnostic tests need to be conducted.

3.4.1 Unit root Test

The study starts by detecting the presence of unit root employing Augmented Dickey-Fuller (ADF) and Phillips Perron (PP) test. The advantage of PP test over the ADF test is that the PP

takes into account the serial correlation by making correlations to the t-statistics of the coefficients of the lagged variables not by adding the differenced term of the lagged variable. In addition to this, the PP test has a strong power of rejecting H_1 over the ADF test.

$$\Delta Y_t + \beta T + (\rho - 1)y_{t-1} + \sum_{i=1}^{n} \propto_i \Delta y_{t-i} + \varepsilon_t \tag{3}$$

$$\Delta Y_t = \propto + \beta T + (\rho - 1)y_{t-1} + \varepsilon_t \tag{4}$$

Where Y is the variable of interest, $\propto$ is the intercept, T is a linear time trend, Δ is the first difference operator, and ε_t is the error term with zero mean and constant variance. The test regression for ADF will include lagged differences of the dependent variable (y) as independent variables to account for higher-order serial correlation. PP test modifies the test statistics used in ADF tests to control for serial correlation. The hypothesis (H_0: $\rho-1=0$) that Y is a non-stationary is rejected if the test fails to reject the alternative hypothesis (H_1: $(\rho-1) < 0$). Since the *t*-statistic does not have the standard *t* distribution for both tests, MacKinnon (1991) finite sample critical values will be used to determine the statistical significance.

3.4.2 Autoregressive Distributed-lag (ARDL) Bounds Testing Approach

The Pesaran, Shin and Smith (2001) bound testing method uses *F* and *t*-statistics to test the significance of the lagged levels of the variables in a univariate error correction system when it is imprecise as to whether data generating process underlying a time series is a trend or first difference stationary. The Pesaran, Shin and Smith (2001) bound testing method can include both I(0) and I(1) variables in the analyses and outperforms other cointegration tests with small sample size. To enhance the interpretability of the coefficients of our model and to deal with the issue of outliers and ensure that the variables are normally distributed, we included deterministic terms like intercept and time trends in our modelling.

Furthermore, Pesaran, Shin and Smith (1995) imply that the choice of an estimator for small-sample analysis ought to be based on Monte Carlo assessment and present proof to support a "two-step" strategy. Lag lengths are first decided with Schwartz Bayesian criterion or Akaike information criterion with OLS applied to an ARDL model detailing the short-run dynamics. Recovery of the coefficients of the long-run model or the ECM then follows as a reparameterisation exercise.

Pesaran, Shin and Smith (1995) offer a procedure for identifying the dependent variable in a system containing a single cointegrating relationship. This procedure involves the computation of standard hypothesis tests, albeit with non-standard critical values, applied to an unrestricted version of an ECM (UECM), which we can express as

$$\Delta y_t = \sum_1 a_i \Delta y_{t-i} + \sum_0 \beta_i' \Delta x_{t-i} + \Phi\, y_{t-1} + \delta' x_{t-1} \qquad \textbf{(5)}$$

The joint hypothesis $\Phi = 0$, $\delta' = 0$ assert that no ECM and therefore no long-run relationship exists. An "F-statistic" of this hypothesis is carried out using non-standard critical values developed by Pesaran, Shin and Smith (1995). The UECM is normalised upon a particular selection of dependent variable by omitting the current change of this variable from the right-hand side; applying the F-test to all such normalisations constitutes a search for the direction of causation.

4. RESULTS

This section presents the results of the estimation and diagnostic tests. Then it discusses the findings of the results.

4.1 Correlation Matrix Analysis

The estimation starts with a preliminary analysis of the nature of the relationship between the variables using a correlation test and the result is presented in Table 2:

Table 2: Correlation Analysis

	EXPT	FDI	RGDP	EXG	TOP
XPT	1	0.985548	0.820879	0.969019	0.897323
FDI	0.985548	1	0.790114	0.982402	0.898596
RGDP	0.820879	0.790114	1	0.776727	0.486866
EXG	0.969019	0.982402	0.776727	1	0.882711
TOP	0.897326	0.898596	0.486866	0.882711	1

Sources: Computed using Eviews 9

Table 2 shows the result from correlation analyses which revealed that all the variables are positively related to export. The relationship between export performance and FDI based on the above correlation test result shows that the variables of interest are positively related.

4.2 Unit Root Test

Before the test of Cointegration using Autoregressive Distributed-lag (ARDL) Bounds Testing, the study test for stationarity of the collected data using Augmented Dickey-Fuller (ADF) and Phillips-Perron (PP). The result of the unit root test which is conducted at both levels and first difference is presented as follows:

Table 3: Augmented Dickey-Fuller (ADF) Test

At Level

		EXPT	FDI	GDP	ER
With Constant	t-Statistic	-3.4334	-3.5743	-5.5022	3.0555
	Prob.	0.0146	0.0101	0.0000	1.0000
		**	**	***	no
With Constant & Trend	t-Statistic	-3.3850	-3.5529	-5.5724	-0.2603
	Prob.	0.0657	0.0452	0.0002	0.9896
		*	**	***	no
Without Constant & Trend	t-Statistic	-1.0856	-1.6065	-4.7625	4.3026
	Prob.	0.2475	0.1011	0.0000	1.0000
		no	no	***	no
At First Difference					
		d(EXPT)	d(FDI)	d(GDP)	d(ER)
With Constant	t-Statistic	-8.7377	-10.0815	-10.4222	-3.6138
	Prob.	0.0000	0.0000	0.0000	0.0092
		***	***	***	***
With Constant & Trend	t-Statistic	-8.7314	-9.9628	-10.3550	-4.3106
	Prob.	0.0000	0.0000	0.0000	0.0069
		***	***	***	***
Without Constant & Trend	t-Statistic	-8.8360	-10.1807	-10.4913	-3.1346
	Prob.	0.0000	0.0000	0.0000	0.0024
		***	***	***	***
Notes: (*)Significant at the 10%; (**)Significant at the 5%; (***) Significant at the 1% and (no) Not Significant. MacKinnon (1996) one-sided p-values.					

Source: Computed using Eviews 9

Table 4: Phillips-Perron (PP) Test

At Level					
		EXPT	FDI	GDP	ER
With Constant	t-Statistic	-3.3778	-3.5743	-5.5144	2.5596
	Prob.	0.0168	0.0101	0.0000	1.0000
		**	**	***	no
With Constant & Trend	t-Statistic	-3.3533	-3.5529	-5.5746	0.1646
	Prob.	0.0703	0.0452	0.0002	0.9971
		*	**	***	no
Without Constant & Trend	t-Statistic	-1.0856	-1.8830	-4.7973	3.7106
	Prob.	0.2475	0.0575	0.0000	0.9999
		no	*	***	no
At First Difference					
		d(EXPT)	d(FDI)	d(GDP)	d(ER)
With Constant	t-Statistic	-9.0338	-13.2124	-11.4529	-3.5660
	Prob.	0.0000	0.0000	0.0000	0.0104
		***	***	***	**
With Constant & Trend	t-Statistic	-9.2834	-12.9249	-11.3805	-4.3044
	Prob.	0.0000	0.0000	0.0000	0.0070
		***	***	***	***
Without Constant & Trend	t-Statistic	-9.1441	-13.2150	-11.5193	-3.0327
	Prob.	0.0000	0.0000	0.0000	0.0032
		***	***	***	***
Notes: (*)Significant at the 10%; (**)Significant at the 5%; (***) Significant at the 1%. and (no) Not Significant *MacKinnon (1996) one-sided p-values.					

Source: Computed using Eviews 9

To have robust results, two different unit root tests as mentioned earlier were conducted with a constant term only; constant term and linear trends; and without a constant and linear trend. The appropriate lag level applied in the test follows the minimum Schwarz information (SIC). From the Table 3 and Table 4 above, the unit root test results conducted at levels and the first difference for both ADF and PP revealed that one variable (ER) has unit root (non-stationary) at level, while the remaining (EXPT, FDI and GDP) are found to be stationary. The non-stationary variable is stationary after first differencing. This implies that all the variables are stationary after first differencing.

4.3 Autoregressive Distributed-lag (ARDL) Bounds Testing Approach

It can be observed in Table 2, that our variables are not integrated in the same order as ER is I(1) while EXPT, FDI and GDP are I(0). Hence, this study uses the ARDL approach to examine the long and short-run dynamics of our model and test for the existence of cointegration. This method is suitable whether the variables are trend stationary or difference stationary (Pesaran and Shin, 1998). The Engle-Granger (1987) representation theorem affirm that once the level of a set of I(1) variables are constrained by one or more cointegrating

relationships then their data generating process could be expressed as an error correction model (ECM). Though, at one level an ECM is simply one possible (constrained) parameterization of a vector autoregression (VAR). Considering that each equation of a VAR is an autoregressive distributed lag (ARDL) regression. In that case, the representation theorem could be taken as suggesting that cointegrating relationships, and short-run dynamics, can be studied by estimation of ARDL regressions. Pesaran and Shin (1998) stress that un-modified OLS has desirable asymptotic properties when applied to ARDL, provided that the lag lengths are adequate to proxy for the serial correlation and endogeneity.

We used the 'Bounds Test' of Pesaran and Shin (1999) to check if the cointegration justifies imposing an error–correction restriction on the ARDL coefficients. Pesaran and Shin's (1999) upper bounds for the critical values apply where all variables are $I(1)$ and the lower bounds are relevant where none of the variables is $I(1)$. Here our series comprises of $I(0)$ and $I(1)$; therefore, the asymptotic critical values are not known but lie between the known lower and upper bounds.

As described in section 3.4.2, this paper follows a two-step procedure to estimate an ARDL version of equation (5). In the first step, we carried out 'stability tests' to explore the existence of the long-run relationship, if any, among the variables EXPT, FDI, EXG and RGDP. The following UECM is constructed with EXPT considered as the dependent variable:

$$
\begin{aligned}
\Delta \text{EXPT}_t = \boldsymbol{\alpha_{y0}} &+ \sum_{i=1}^{n} \boldsymbol{b_{yi}} \Delta_i \text{EXPT}_{t-i} + \sum_{i=0}^{n} \boldsymbol{c_{yi}} \Delta_i \text{FDI}_{t-i} + \sum_{i=0}^{n} \boldsymbol{d_{yi}} \Delta_i \text{EXG}_{t-i} \\
&+ \sum_{i=0}^{n} \boldsymbol{e_{yi}} \Delta_i \text{RGDP}_{t-i} + \boldsymbol{\gamma_{1y}} \text{EXPT}_{t-1} + \boldsymbol{\gamma_{2y}} \text{FDI}_{t-1} + \boldsymbol{\gamma_{3y}} \text{EXG}_{t-1} \\
&+ \boldsymbol{\gamma_{4y}} \text{RGDP}_{t-1} + \boldsymbol{\varepsilon_t}
\end{aligned}
\tag{6}
$$

Considering the limited number of observations, we specify the maximum lag, n, as four. The F test, denoted by $F_{EXPT}(EXPT|\,\text{FDI}, \text{EXG}, \text{RGDP})$, is used to examine the existence of the 'stable and long-run relationship' when $EXPT$ is considered as a dependent variable and FDI, EXG and RGDP are the independent variables. The null hypothesis of the 'non-existence of the long-run relationship', i.e. the coefficients of all level variables are jointly zero can be written as follows: i.e. $H_0: \gamma_{1y} = \gamma_{2y} = \gamma_{3y} = \gamma_{4y} = 0$. The alternative hypothesis that there exists a long-run relationship is $H_1: \gamma_{1y}, \gamma_{2y}, \gamma_{3y}, \gamma_{4y} \neq 0$.

Table 1: F-Bounds Test

Sample: 1970 - 2017				
F-Bounds Test: F_{EXPT} (EXPT| FDI, EXG, RGDP)		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	4.36	10%	2.37	3.2
K	3	5%	2.79	3.67

Reported in Table 5m *F*-statistic (*F* = 4.36) considerably exceeds the upper bound of the critical value (3.67) for testing at a 5% significance level. We, therefore, reject the hypothesis of 'No long-run relationship' which implies that there seems to be a long-run cointegrating relationship between the variables in levels when *EXPT* is considered as a dependent variable and FDI, EXG, RGDP are considered as independent variables.

For estimation of the ARDL model, the maximum number of lags is set to four and, the preferred model is based on SIC. The preferred model achieved an R^2 value of 0.47 and, there is no statistically significant autocorrelation of the residuals (see Appendix 1).

Table 2: ARDL Error Correction Regression

Variable	Coefficient	Std. Error	t-Statistic	Prob.
CointEq(-1)*	-0.4657	0.0953	-4.8866	0.0000

The ECM estimation result of the preferred model is presented in Table 6. The error-correction coefficient is negative (-0.4657), and is statistically significant. This confirms a cointegrated stable long-run relationship. This result reveals that export (EXPT), foreign direct investment (FDI), the exchange rate (ER) and gross domestic product (GDP) are cointegrated where EXPT is a dependent variable.

Table 3: The Estimated long-run relationship between EXPT and FDI, ER, GDP

Variable	Coefficient	Std. Error	t-Statistic	Prob.
FDI	1.4793	1.5274	0.9685	0.3383
ER	-0.0013	0.0249	-0.0535	0.9576
GDP	0.8844	0.3800	2.3271	0.0249
C	13.989	3.5965	3.8895	0.0004
EC = EXPT - (1.4794*FDI -0.0013*ER + 0.8845*GDP + 13.9890)				

Table 7 reports estimated long-run model which reveals that there is no statistically significant impact of foreign direct investment on the export. There is also no significant impact of foreign exchange rate on the export. However, the statistically significant impact of the gross domestic product on export is observed. The lack of significant impact of the foreign direct investment on the export could be so what surprising. Though we are aware that any foreign direct investment could have an impact on the economy but the direct impact on the export might not exist.

The policy implication of this result is that the government's perception of encouraging FDI to improve export might be wrong as the FDI does not have an impact on the export in the long run. Hence, the government should explore some internal measures to enhance the export.

5. CONCLUSION

The study examines the relationship between foreign direct investment and export performance in Nigeria for the period of 1970-2017. The empirical results revealed that long-run association exists between export, FDI, economic growth and the exchange rate. However, the FDI in Nigeria does not have a direct impact on the export as the coefficient of FDI is not statistically significant in the long run. However, the improvement in the economy (GDP) has a significant impact on the export. As such, any effort towards improving the output in the economy which might include FDI could, in turn, have an impact on the export.

The policy implication of these findings indicates that the government of Nigeria should utilise the FDI carefully on sectors that drive the improvement in the output in the economy.

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Appendix 1: Residual Diagnostic

Breusch-Godfrey Serial Correlation LM Test:			
Null hypothesis: No serial correlation at up to 4 lags			
F-statistic	1.706927	Prob. F(4,38)	0.1686
Obs*R-squared	7.158568	Prob. Chi-Square(4)	0.1277

Heteroskedasticity Test: Breusch-Pagan-Godfrey			
Null hypothesis: Homoskedasticity			
F-statistic	0.275389	Prob. F(4,42)	0.8922
Obs*R-squared	1.201190	Prob. Chi-Square(4)	0.8779
Scaled explained SS	0.684482	Prob. Chi-Square(4)	0.9532
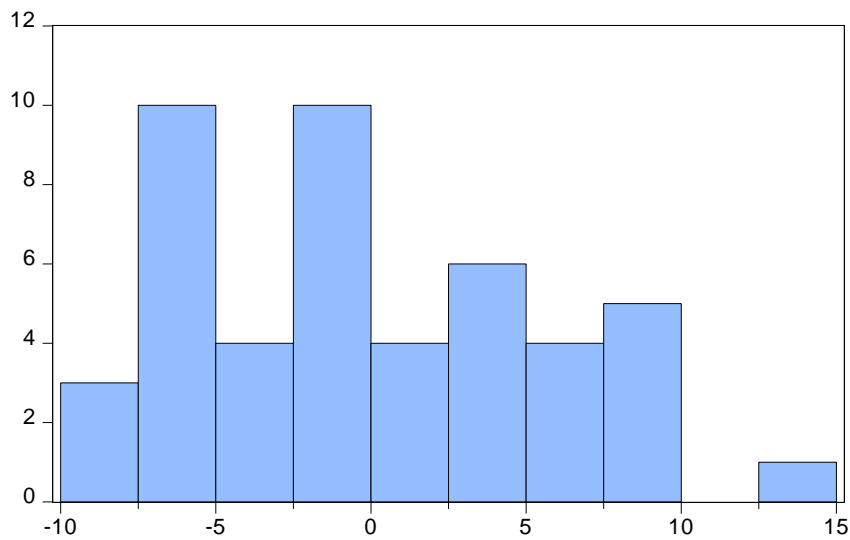
Series: Residuals
Sample 1971 2017
Observations 47

Mean	-1.23e-15
Median	-0.640171
Maximum	14.97580
Minimum	-8.713741
Std. Dev.	5.672939
Skewness	0.398079
Kurtosis	2.427175
Jarque-Bera	1.883912
Probability	0.389864