FOREIGN DIRECT INVESTMENT AND AGRICULTURAL EXPORTS IN NIGERIA

by

Harrison Ogbeide EROMOSELE
Department of Economics and Development Studies
Faculty of Social Sciences
Federal University Otuoke
Bayelsa State

ABSTRACT
The problem of undiversified and unstable export sector in Nigeria has been persistent over the years. In this study, the effect of foreign direct investment (FDI) on agricultural export – a major source of comparative advantage for Nigeria's export sector – is examined. It is argued that the technical and institutional advantage of FDI inflow should lead to improvement in agricultural export capacity in Nigeria. Using data for the 1981 t0 2022 period and a dynamic framework (based on the autoregressive distributed lag technique), the study finds that FDI inflows has a significant positive impact on agricultural export from Nigeria. There is also evidence that agricultural output does not significantly influence agricultural export in Nigeria. These results suggest that FDI in agriculture may be more targeted at specific areas in the sector that are directly linked to export. Thus, if the benefits of FDI can be spread to all aspects of agriculture in Nigeria, both output and export from the sector are expected to further improve significantly.

Keywords: *Foreign Direct Investment (FDI), Agricultural Exports, Nigeria.*

1. Introduction

Foreign Direct Investment (FDI) is widely recognized as a critical driver of economic growth, particularly in developing economies like Nigeria (Uford, 2017). FDI has been shown to drive domestic productivity (Oyerinde, 2019; Derbali & Lamouchi, 2020), boosts domestic human capital development and employment (Afonso, 2022; Yimer, 2023), improves technology transfer (Mwakabungu & Kauangal, 2023; Fazaalloh, 2024), and aids individual firm performance over time (Rajab & Zouheir, 2023). However, while all the sectors of the economy are critical for development in Nigeria, FDI has been unevenly distributed across sectors, with concentration heavily favouring more industry and modern services sectors with less distribution into traditional services and agricultural sectors. For instance, the NBS reported that 45.3 percent of FDI inflow to Nigeria in 2022 was in banking and finance, 22.7 percent in manufacturing, 11.3 percent in telecommunications while less than 10 percent flowed into agriculture. Thus, it is important to understand the direction of effect of the sectoral allocation of FDI in the agricultural sector, while focusing on the distributional outcomes of this inflow. This lower inflow into agriculture despite the central role of the sector in economic development in Nigeria.

The agricultural sector has historically served as the backbone of Nigeria's economy, especially in terms of share in total output and share in employment (Adegboye & Arodoye, 2023). This sector has however experienced significant fluctuation over the years. During early periods, foreign investments were modest in volume but primarily directed toward agriculture, agro-processing, and cash crop production. For instance, early development plans by the government

and multilateral agencies emphasised the exploitation of Nigeria's vast arable land and favorable climate for crops such as cocoa, groundnuts, and palm oil. The oil boom of the 1970s dramatically increased the share of oil in economic activities Nigeria, with attendant decline in agriculture both as a government policy focus and as an investment sector (Onuoha, 2010). During this era, foreign investors redirected their attention to the petroleum sector, leading to a significant decline in FDI in agriculture. In the past decade, Nigeria has embarked on renewed policy initiatives aimed at diversifying its economy and boosting sectors such as agriculture. According to the UNCTAD World Investment Report (2020), Nigeria attracted approximately USD 2.7 billion in FDI inflows in 2022. However, sectoral analysis indicates that the oil and gas industry continued to capture a majority share – with agricultural investments estimated at around 5–10% of total FDI.

The perspective of FDI inflows to Nigeria over the years thus reveals a transformation from an agriculture-centered investment landscape at the early stages after independence to an oil-dominated economy. Currently, there is however, a new phase of gradual diversification in FDI inflows in the trend. Renewed policy focus and global trends favoring sustainable agriculture suggest that Nigeria's agricultural sector is poised for revival through targeted FDI. However, realizing this potential requires overcoming longstanding challenges and creating an environment that supports both domestic and foreign investors in agriculture.

Estimates from the National Bureau of Statistics however highlight that modest but promising increases in FDI targeted at agricultural value chains, like agri-tech innovations, and agro-processing facilities are being made in recent years.Global trends emphasizing food security and sustainable agriculture have also encouraged investors to reexamine Nigeria's agricultural potential, albeit the scale remains comparatively small relative to the oil sector (Adeleke, 2016).How do these recent improvement in FDI into agroindustry influence the export of agricultural products from Nigeria.

Despite Nigeria's vast arable land and favorable climatic conditions, agricultural exports have remained relatively low, contributing marginally to total export earnings over the years (CBN, 2023). Many factors, including inadequate infrastructure, poor access to credit, limited technological advancement, and weak institutional frameworks, continue to hinder the sector's global competitiveness (Akpan & Uford, 2023; Ikuemonisan, 2024). Many of these challenges require modern and advanced formulations to address. Hence, FDI inflows have been considered as a veritable mechanism for improving agriculture as a whole in Nigeria. However, while FDI has been identified as a potential catalyst for improving agricultural productivity, its actual impact on Nigeria's agricultural export sector remains uncertain and underexplored.

Moreover, existing literature on FDI and the Nigerian economy has largely focused on the manufacturing and service sectors, with limited empirical studies specifically addressing the agricultural export sector. Moreover, concerns about the quality of FDI inflows, their sectoral allocation, and the extent to which they translate into increased agricultural exports raise important research and policy questions in Nigeria. In this direction, this study seeks to evaluate the significance of FDI as a driver of agricultural export performance in Nigeria. Moreover, given the pressing need to diversify Nigeria's export base and reduce overdependence on crude oil, understanding the extent to which FDI contributes to agricultural export growth is essential for policymakers. This study, therefore, seeks to fill the existing research gap by examining the impact of FDI on agricultural export in Nigeria.

2. Literature Review

Several theoretical perspectives operationalize the effects of FDI on the agricultural sector of a developing economy. The Resource-Based View (RBV) argues that firms gain competitive advantages by utilizing unique resources. In agriculture, FDI can introduce advanced technologies, managerial expertise, and financial resources that enhance productivity (Epaphra & Mwakalasya, 2017). This theory suggests that foreign investors can leverage local agricultural resources more effectively than domestic firms. On the other hand, the Technology Transfer Theory demonstrates that FDI facilitates the transfer of technology from developed to developing countries. This transfer can lead to improved agricultural practices, higher yields, and better product quality ((Borensztein et al., 1998). The expectation is that foreign firms will bring innovative farming techniques and equipment that local farmers may not have access to in the country.

Furthermore, Jenkin (2011) presented the Market Access Theory that suggests that FDI can improve access to international markets for local agricultural producers. By establishing partnerships with foreign companies, local farmers may benefit from better distribution networks and marketing strategies, enhancing their export capacity. Finally, the Agricultural Transformation theory emphasizes the need for an agricultural transformation to achieve sustainable economic growth (Rahman et al, 2024). FDI can play a crucial role in this transformation by investing in infrastructure, such as irrigation systems and storage facilities, which are essential for increasing agricultural output and reducing post-harvest losses.

There are also theoretical studies that have considered how FDI affects agricultural. First, there is the argument that FDI improves integration of the agricultural sector of an economy into global value chains. This shows that since, FDI often comes with access to international networks like better logistics, quality control, and marketing expertise, it can elevate agriculture to the global stage (Sultana & Sadekin, 2023). The “global value chain” framework suggests that local firms can benefit from linkage with multinational enterprises (MNEs) by adopting internationally recognized standards and practices. Although much of the literature on global value chains has concentrated on manufacturing, agricultural sectors in many countries are increasingly being integrated into these networks. This integration can lead to improvements in export performance by opening up new markets and creating more reliable channels for product distribution (Sultana & Sadekin, 2023).

Secondly, FDI is often accompanied by improvements in the host country’s institutional framework and infrastructure (Charles & Uford, 2023). Multinational firms may advocate for better regulatory practices and invest in complementary infrastructure such as roads, storage facilities, and cold chains, which are essential for perishable agricultural goods. Such improvements not only lower the costs of production and distribution but also enhance the competitiveness of agricultural exports (Afonso et al, 2022; Benetrix et al 2023).

Empirical studies on FDI and agriculture have resulted in various dimensions of the relationship. Several cross-country studies have attempted to disentangle the impact of FDI on export performance. Although early empirical work (like Afonso 2022) concentrated on aggregate outcomes, subsequent research has increasingly paid attention to sectoral differences. Early studies also focused on the concept of FDI’s role in transferring technology and managerial expertise to domestic firms. For instance, Ratinger and Kristkova (2015) argued that FDI acts as a conduit for modern farming techniques, advanced machinery, and innovative production methods that contribute to improving the quality and quantity of agricultural output. Their study, which utilized

panel data from the Czech Republic, found a significant positive correlation between FDI inflows and improvements in agricultural productivity, which in turn was associated with increased export performance. Ratinger and Kristkova (2015) emphasized that the benefits of technology spillovers were contingent on the absorptive capacity of local firms, suggesting that FDI's impact was more pronounced in regions where domestic institutions could effectively integrate new technologies.

Recent empirical evidence suggests that countries receiving higher levels of FDI in agriculture tend to show improved export performance. For example, UNCTAD (2020) documented how FDI inflows into agriculture are associated with enhanced productivity and export competitiveness in several emerging markets. This report noted that FDI can be particularly effective when local firms are integrated into global production networks and when the host country has complementary policies that support innovation and infrastructure development. Also, Nyiwul and Koirala (2022) expanded the analysis by investigating the role of FDI in restructuring the value chains within the agricultural sector. Their research underscored the idea that FDI not only facilitates technology transfer but also promotes the reorganization of production processes in ways that align domestic agricultural firms with international standards. Using data from sixteen developing economies, Nyiwul and Koirala (2022) demonstrated that countries receiving higher levels of FDI in agriculture experienced improvements in both export quality and volume. Their findings provided evidence that FDI helps domestic firms overcome traditional barriers to export competitiveness by modernizing production and enhancing market access.

Sultana and Sadekin (2023) also examined the relationship between FDI and the agricultural sector performance in Bangladesh using time series data spanning from 1972 to 2021. Employing the ARDL methodology, the study determined both the long-term and short-term effects of FDI on agricultural productivity. The empirical findings of the study revealed that FDI had a significant negative effect on the agricultural sector in Bangladesh over the long term, suggesting that that while FDI may bring capital, it does not necessarily enhance agricultural productivity or growth. Moreover, they found that in contrast, FDI did not have a significant effect on agriculture in the short run also indicating that the immediate benefits from FDI in agriculture in the country may be limited.

Edeh et al (2020) also employed the Autoregressive Distributed Lagged (ARDL) and Fully Modified Least Squares (FMOLS) techniques to evaluate the effects of FDI on the agricultural sector performance in Nigeria over a long period. Results from the study indicated that foreign direct investment had a positive and significant impact on agricultural sector output in the country, suggesting that attracting FDI could be beneficial for Nigeria's agricultural development.

The type of FDI was also shown to matter for its effect on agricultural export. In this direction, Gomez and Liu (2020) investigated the role of FDI types on agricultural export – specifically, distinguishing between greenfield investments and mergers and acquisitions (M&A). Their research suggested that greenfield investments, which involve establishing new operations, tend to have a stronger positive impact on agricultural export performance compared to M&A, which often entail restructuring existing operations. This is because greenfield investments are more likely to introduce new technologies and establish modern production facilities, thereby directly enhancing the competitiveness of agricultural products in the international market. In contrast, M&A were sometimes found to result in efficiency gains that were more limited in scope, particularly in cases where the acquired firms already operated with relatively modern practices. Ha et al (2020) found similar outcome in terms of FDI-type differentiation by showing that the

presence of foreign firms had differing effects on the exporting activities of low- versus high-tech firms in the manufacturing sector in Vietnam.

The effects of FDI on agricultural export has received little attention in literature, although available literature shows that the relationship is similar to that of FDI and agricultural output/productivity. Kastratović (2024) analysed how FDI inflows in agriculture affect agricultural exports in developing countries. Using panel data from 80 developing nations between 2005 and 2017, the research employed a dynamic modeling technique to identify both direct and spillover effects of FDI on agricultural exports. The findings suggest that FDI positively influences agricultural exports in both the short and long term, implying that promoting foreign investment in agriculture could enhance export competitiveness. Similarly, Gebremariam and Ying (2022) examined the empirical relationship between foreign direct investment and export performance in Ethiopia for the period of 1992–2018 using the ARDL technique. The long-run model result revealed that the relationship between FDI and export performance was insignificant.

Using firm-level data, Ha et al (2020) investigated the effects of FDI on the exporting behaviour of domestic firms in the Vietnamese manufacturing and service sectors. Applying the Heckman selection model on panel data as the methodology, they found that investment by foreign firms had a significant positive effect on the decision of domestic firms in the same industry or in the upstream sectors to export. The proportion of exports of domestic firms was also found to decline through horizontal and forward linkages, but increased through backward linkages in the manufacturing sector. Similar results were found by Liu and Wang (2020) who also showed that FDI increased the sophistication of net exports in China.

In terms of FDI and export performance in Nigeria, Babatunde (2022) examined the relationship between inward FDI and export performance in Nigeria at the aggregate and disaggregated level between 1980 and 2014. The study employed a dynamic framework to identify the long run relationship and it revealed that a positive and significant relationship exists between FDI and total export and exports in manufacturing, oil and services sectors. However, FDI was found not to influence agricultural exports in Nigeria. The study therefore showed that agricultural development policies were weak in the country, especially with regard to discriminatory policy towards foreign investors.

Overall, the empirical studies highlight that a generally dynamic interplay exists between FDI inflows and the evolving export performance of the agricultural sector, especially in developing countries. However, a major trend in the literature reviewed is the level of heterogeneity in outcomes of the relationships, which appears to be influenced by country-specific factors and the nature of the agricultural sector. Thus, better observation in the relationship may be determined using country-specific dataset as is used in our study. In the same vein, very little literature has investigated the relationships between FDI and agriculture-specific export. This is a gap that this study fills.

3. Methodology

3.1 Specification of Model

The model specified in this study is adapted from previous empirical studies of Babatunde (2017) and Kastratović (2024). The formulated model in this study is intended to avoid the problem of general time series due to omitted variable in a bivariate model. The stated function seeks to

provide the explanation for the effects of FDI and prices of oil and agricultural products in the international market on agricultural exports in Nigeria is as follows:

$$AGEXP = f(FDIR, AGP, OILP, EXRT, AGQ, INFL) \quad (1)$$

Where AGEXP = total agricultural export
FDIR = FDI to GDP ratio
AGP = price index of agricultural products in the international market
OILP = international crude oil prices
EXRT = exchange rate
AGQ = agricultural output
INFL = inflation rate

The model is specified in Econometric form as follows:

$$AGEXP_t = \alpha_0 + \alpha_1 FDIR_t + \alpha_2 AGP_t + \alpha_3 OILP_t + \alpha_3 EXRT_1 + \alpha_3 AGQ_1 + \alpha_3 INFL_t + \varepsilon_t \quad (2)$$

Where t is the time period in years and ε is the stochastic error term. In the model, agricultural export is measured as the total value of agricultural exports from Nigeria, foreign direct investment is the total inflow of FDI into Nigeria, agricultural price index is an index of a group of global agricultural products that are exported from Nigeria, oil prices are the international price of the Brent crude, exchange rate is the naira to dollar exchange rate, agricultural output is measured as the GDP value of agriculture, and inflation rate is measured annually. The data for the analysis cover the period between 1981 and 2022 and were obtained from the CBN Statistical Bulletin, the FAO database, and the OPEC database.

The model specified in the study is estimated using a dynamic framework. In this case the autoregressive distributed lags (ARDL) model is adopted for the estimation in order to obtain both the short run and long run relationships among the variables. The ARDL form of the model is specified as:

$$\begin{aligned}\Delta AGEXP_t = {} & \alpha_0 + \delta_1 FDIR_t + \delta_2 AGP_t + \delta_3 OILP_t + \delta_4 EXRT_t + \delta_5 AGQ_t + \delta_6 INFL_t \\ & + \sum_{n=1}^{p-1} \beta_1 \Delta FDIR_{t-i} + \sum_{n=1}^{p-1} \beta_2 \Delta AGP_{t-i} + \sum_{n=1}^{p-1} \beta_3 \Delta OILP_{t-i} + \sum_{n=1}^{p-1} \beta_4 \Delta EXRT_{t-i} \\ & + \sum_{n=1}^{p-1} \beta_5 \Delta AGQ_{t-i} + \sum_{n=1}^{p-1} \beta_i \Delta INFL_{t-i} \quad (3)\end{aligned}$$

Where δ represents the long run estimates and β represents the short run estimates.

4. Empirical Analysis

In this study the effects of foreign direct investment inflow and international commodity prices on agricultural exports in Nigeria is the focus. This section involves the presentation and analysis of data, including the estimation and interpretation of model that seeks to explain the relationships of the study.

4.1 Descriptive Statistics

The descriptive statistics of the data used for the empirical analysis are presented in Table 1. It is seen that average agricultural export growth over the period (1980 – 2021) was 4.04 percent, which

is generally low and shows that since the discovery of crude oil in the country in the early 1970s, agriculture has taken a back sit in terms of export earnings in the country. It is seen that minimum growth rate over the period was -55.5 percent which shows that there were periods where export growth in agriculture declined by half of the previous year. The high standard deviation of the variable shows that agricultural export has fluctuated significantly over time in Nigeria.

Table 1: Descriptive statistics

Variable	Mean	Max.	Min.	Std. Dev.	Skew.	Kurt.	J-B	Prob.
AEXPG	4.04	33.78	-51.50	81.94	2.19	7.51	67.48	0.00
FDIR	1.48	5.79	0.18	1.24	1.77	6.19	38.72	0.00
AGP	-0.16	14.78	-14.95	6.99	-0.09	2.50	0.48	0.79
OILP	44.18	111.97	12.72	30.01	0.96	2.75	6.43	0.04
AGQG	5.41	55.58	-4.38	8.85	4.61	26.69	1104.20	0.00
EXRT	111.54	406.00	0.64	113.77	0.98	3.15	6.62	0.04
INFL	62.65	229.05	0.71	69.04	0.95	2.70	6.27	0.04

Source: author's computation

Average FDI to GDP ratio is 1.48, with a maximum value of 5.79 and minimum of 0.18. Relative to the Nigerian economy, it appears that FDI inflow has been low. The changes in the index of agricultural prices (AGP) over the period was -0.16 on average, while the minimum and maximum values almost cancel out. There was also high fluctuation in the agricultural prices at the international market, judging from the large standard deviation value relative to the mean value. The average growth rate of agricultural output (AGQG) is 5.41, which is higher than the average growth rate of agricultural export in Nigeria. This further confirms the weak expansion of agricultural exportation in Nigeria.

The corelation among the variables is also shown in Table 2. Weak correlations exist among agricultural exports, FDI and agricultural output. Indeed, a stronger correlation exists between FDI inflow and agricultural output than between FDI and agricultural exports. The correlation between agricultural output and export is positive, although it is low. A strong positive correlation exists between inflation rate and both oil prices and exchange rate. This shows that oil prices and exchange rate move in the same direction as inflation rate in Nigeria.

Table 2: Correlation matrix

Variable	AEXPG	FDIR	AGP	OILP	AGQG	EXRT	INFL
AEXPG	1						
FDIR	-0.057	1					
AGP	0.086	0.349	1				
OILP	-0.067	-0.056	0.195	1			
AGQG	0.330	0.092	0.030	-0.067	1		
EXRT	-0.086	-0.186	0.227	0.550	0.003	1	
INFL	-0.086	-0.225	0.195	0.679	-0.074	0.964	1

4.2Unit Root and Cointegration Analysis

The results of the Augmented Dickey Fuller (ADF) unit root test are presented in Table 3. From the results of the ADF tests it can be seen that the ADF test statistics for FDIR, AGP, and INFL are significant when the variables are in levels, while the statistics for AGEXP< OILP, EXRT, and AGQ were only significant at first difference. This shows that three of the variables are stationary in levels, while four are stationary at first difference.

Table 3: Unit Root test for Variables

Variable	ADF Test		KPSS		Order of Integration
	Levels	*First Difference*	*Levels*	*First Difference*	
AGEXP	-0.786	-7.599**	0.654**	0.283	I(1)
FDIR	-4.136**	-8.413**	0.177	0.195	I(0)
AGP	-4.788	-8.221**	0.771**	0.253	I(0)
OILP	-1.419	-5.843**	0.835**	0.088	I(1)
EXRT	1.891	-5.416**	0.560*	0.288	I(1)
AGQ	-0.060	-6.109**	0.764**	0.082	I(1)
INFL	-4.736**	-5.045**	0.203	0.191	I(0)

*Note: * indicates signifies at 5 percent; 95% critical values are reported in parentheses below each test value*
Source: Author's computation

From the unit roots tests conducted, there is evidence that most of the variables are I(1) while some are I(0). This renders the simple error correction mechanism procedure redundant in estimating the relationships since the traditional test for common stochastic trends in the data series (or cointegration test) may not be sufficient for determining the long run relationship. Hence, following Pesaran (2001), an ARDL approach to cointegration is conducted in the study. In this direction, the Bounds testing procedure for cointegration is adopted in this study. Moreover, the application of error correction processes (based on the ARDL approach to cointegration) further indicates the relevance of the cointegration tests. The results of the Bound cointegration tests for the three models in the study are presented in Table 4.

Table 4: Bound Cointegration Test Results

F-Bounds Test		Null Hypothesis: No levels relationship		
Test Statistic	Value	Signif.	I(0)	I(1)
F-statistic	4.135	10%	2.33	3.25
k	6	5%	2.63	3.62
		2.5%	2.9	3.94
		1%	3.27	4.39

Source: Author's computation

The computed F values for the Bounds test is greater than both the lower and upper Bounds values at the 5 percent levels in each case. According to the empirical output of the F-values in the result, it can be seen that the null hypothesis of no long-run relationship between agricultural export and all the independent variables is rejected at the 5 percent level. Thus, there is a long run relationship among the variables.

4.3 ARDL Estimates

The result of the ARDL estimation of the impacts of FDI and commodity prices on agricultural exports are presented in Table 5. The ARDL estimates report both the long run and short run estimates in a dynamic structure. The adjusted R-squared value for the estimates is moderately high at over 0.66. This shows that over 66 percent of the behaviour of agricultural exports in Nigeria is explained in the model at any given period. Essentially, the model has strong explanatory capacity. The F-statistic value of 7.08 is significant at the 1 percent level, indicating that there is significant relationship between the dependent and independent variables in the model.

In terms of the effects of the explanatory variables, the results show that both the short run and the long run effects are important. In the short run estimates, FDI has a negative impact on agricultural exports in terms of the lagged impact. The prices of agricultural products also have a negative impact with the current and second lags. The effect of the price of oil is however positive both in current and lagged terms. This result shows that while FDI and price of agricultural products in the international market have negative impacts on agricultural exports, the price of oil in the international market has a positive impact. For the long run results, the coefficient of FDI is positive and significant at the 5 percent level. The coefficient of agricultural prices in the international market is negative but fails the significance test at the 5 percent level.

Table 5: ARDL Estimation Result

Variable	Coefficient	t-Statistic	Prob.
Short run			
Constant	-6.314	-6.526	0.000
D(FDIR)	-0.044	-1.169	0.257
D(FDIR(-1))	-0.156	-3.879	0.001
D(AGP)	-0.011	-1.523	0.144
D(AGP(-1))	0.017	2.649	0.016
D(AGP(-2))	-0.012	-1.808	0.087
D(OILP)	0.011	3.215	0.005
D(OILP(-1))	0.014	3.096	0.006
D(OILP(-2))	0.010	2.480	0.023
D(LAGQ)	2.933	4.510	0.000
D(INFL)	-0.002	-0.128	0.899
D(INFL(-1))	-0.076	-4.348	0.000
ECM_{t-1}	-0.674	-6.728	0.000
Long run			
FDIR	0.217	2.357	0.029
AGP	-0.026	-0.594	0.560
OILP	-0.024	-2.443	0.025
EXRT	-0.012	-2.683	0.015
AGQ	1.974	1.865	0.078
INFL	0.023	2.232	0.038
TREND	0.195	3.163	0.005
Adj. R-sq.	0.66		
F-statistic	7.08		

Source: Author's computation

The coefficient of oil prices in the international market negative and significant at the 5 percent level. This result shows that FDI promotes agricultural exports in Nigeria, increasing FDI will also lead to higher export of agricultural products from Nigeria. On the other hand, the price of commodity in the international market tends to limit the exports of agriculture. In particular, the higher the oil prices, the lower the exportation of agricultural products from Nigeria. This shows that a booming oil sector leads to reduction in agricultural exports in Nigeria. The coefficient of exchange rate, agricultural output and inflation are all significant in the long-run result.

4.4 Post-Estimation Robustness Tests

We provide a robustness check by testing the stability of the estimated equations' interrelationships presented in the empirical analysis. Stability test provides evidence regarding absence of structural breaks that can render linear estimates inconclusive. The first stability test is to evaluate the presence or absence of multicollinearity in the estimated models. Table 6 shows the results of the variance inflation factor tests. The coefficient for each variable is expected to be less than 5.0 for the absence of multicollinearity to be established. In the Table, none of the variables has a centred VIF value greater than 5.0. Based on this outcome, it is demonstrated that the estimates do not suffer from multicollinearity and the estimates as well as the accompanying standard errors are efficiently estimated.

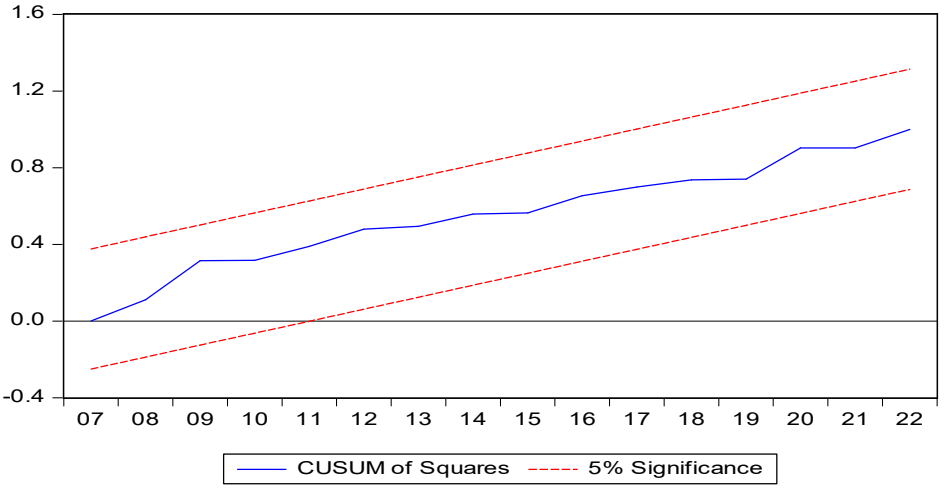
Table 6: Results for Variance Inflation Factor

Variable	CVIF
FDIR	1.812
AGP	2.025
OILP	4.702
EXRT	2.721
LAGQ	3.894
INFL	4.387

Source: Author's computation, 2024.

Next, the test for stability based on the CUSUM of squares test is presented in Figure 1. The CUSUM of squares lines are expected to completely lie in between the dotted 5 percent significance lines. The result show that the CUSUM-square lines for the result for the model estimate is all circumscribed within the dotted 5 percent bound lines. This shows that the estimations are stable within the analysis for the three equations. The influences of structural breaks are fully taken into cognisance with the model specification and estimation procedure. These stable estimates are therefore reliable for making policy conclusions and recommendations.

Fig. 1: CUSUM of Squares Plots



5. Conclusion

Increasing the share of the non-oil sector in exports from Nigeria has become a critical contention in Nigeria with long-term implications for the economy. Essentially, one area where Nigeria has comparative advantage in exports is in agriculture. In this study the effects of FDI and commodity prices in the international market on agricultural exports in Nigeria is examined. It has been demonstrated that it is FDI and the prices of oil in the international market that matter for promoting agricultural exports in Nigeria. Agricultural output was however found to have An insignificant impact on agricultural export, suggesting that export in the sector does not depend on the size of output. This is an interesting outcome from the study that shows that there is an effective delink between outport in agriculture and export in Nigeria. More importantly, this result suggests that FDI inflow to agriculture may only be targeting specific sub-areas in the sector. FDI inflow is not wide-spread within the agricultural sector in Nigeria. There is therefore the need to device policies to not only increase FDI inflows to agriculture, but also to expand its investment to all aspects of the sector. This may help boost overall contribution of agriculture to export performance on Nigeria. Moreover, investment policies that include stable price levels and exchange rate stability need to be implemented to aid FDI inflows and operations in the country. This will help to boost agricultural exports. Moreover, the effect of the oil sector (especially during boom) on agricultural exports also needs to be reduced. Finally, as the global economy evolves and sustainability becomes increasingly central to agricultural policy, future research will need to address not only the quantitative impacts of FDI on agricultural exports but also the qualitative aspects of these changes.

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