

## Impact of Domestic Investment on Agricultural Productivity: Policy Implications for the Nigerian Economy

Otu, Emmanuel<sup>1</sup> and Itesi, Nyaluaziba Samuel<sup>2</sup>

<sup>1 & 2</sup> Department of Economics and Development Studies, Federal University, Otuoke, P.M.B. 126 Yenagoa,  
Bayelsa State, Nigeria

Corresponding Author: Otu, Emmanuel

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### Abstract

The study was motivated by the recent emphasis on the need for the Nigerian economy to have a diversified revenue-base, and by the fact that the economy is endowed with vast resources that can make the revitalization of the agricultural sector a reality. Consequently, the research investigated the impact of domestic investment on agricultural productivity in Nigeria, as this area of research seems to have been greatly ignored by researchers. The research employed the Autoregressive Distributed-Lag (ARDL) with cointegrating bounds, and the study covered the period from 1981 to 2018. The findings of the research indicated that the impact of domestic investment, both in human and physical capital, on agricultural productivity in Nigeria was negative and significant. Among others, the study recommended increased domestic investment in the agricultural sector in order to achieve the much desired diversification of the revenue-base of the Nigerian economy.

**Keywords:** Agricultural productivity; Autoregressive Distributed-Lag (ARDL); Domestic Investment

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### I. Introduction

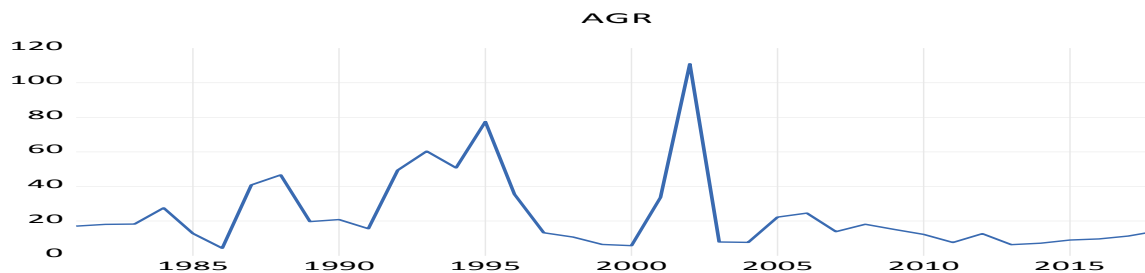
The role of real investment in the creation and enhancement of output is deep-rooted in various theories of economic growth, in which capital is projected as a key component of the production function. As opined by Anwer & Sampath, (1999), the various theories of growth emphasized on capital as one of the key variables in the determination of the rate of growth of output in any economy. Furthermore, several empirical research on the relationship between economic growth and capital formation also suggest that investment is a key driver of economic growth (Vytautas and Manuela, 2008). The direct implication of this is that an expansion of the capital stock can be said to be one of the preconditions required to propel the growth rate of output in the different sectors of an economy.

The level of performance of the different sectors of the Nigerian economy is key to the actualization of the recent quest for the attainment of an all-inclusive growth pattern in the Nigerian economy. The variability of the market price of crude oil, which is the major revenue earner of the government, and the resultant negative impact on the economy is a key pointer to policy makers on the need to diversify the revenue-base of the Nigerian economy. As opined by Suberu, Ajala, Akande, and Olure-Bank (2015), with the variability of the market value of crude oil and the usual volatile growth pattern of the Nigeria's economy, the opportunities to break the vicious cycle of poverty and boost her level of development have been wasted, despite the abundance of resources in the country. Given the background of the Nigerian economy, with regards to the level of overdependence on crude oil, diversification will provide the most effective strategic path towards overcoming her developmental challenges. The key benefit of diversifying the Nigerian economy is that it will enhance the optimal utilization of her abundant resources, and one of the sectors in which critical attention is needed in order to attain an all-inclusive growth pattern is the agricultural sector. This is because the sector can provide the much needed sectorial linkage in the economy.

In most sub-Saharan African countries, a larger proportion of the people live in the rural areas, where poverty and general economic backwardness are very severe. Since most of the households rely on the agricultural sector, and given the potentials of the sector, it might seem obvious that the sector should be regarded as a potential key driver of growth and development in an economy (Diao, Hazell, & Thurlow, 2010). The agricultural sector has made key contributions to the economic success of most advanced economies, and its potentials in the economic developmental process of developing economies is of vital importance (Prabura, 2018). Despite the fact that agriculture-led growth has played a key role in the poverty reduction and the transformation of most economies, the strategy is yet to yield the desired outcome in Africa. Majority of African countries have not been able to meet the requisites for a successful revolution in agriculture and significant increase in the rate of output. This is because the sector's performance in Africa lags behind the rest of the

world. Consequently, Diao, Hazell, & Thurlow (2010) opined that the debate on the role of agriculture on the processes of development of African economies has been revived.

Regrettably, the rate of growth of agricultural productivity (AGR) in Nigeria has been very low and quite unsteady, such that periods of slight increase in productivity may be accompanied, almost immediately, by periods of decline. For instance, in 2002, the sector recorded a growth rate of over 110%, but this was immediately accompanied by a decline to about 7.86% in 2003. The period from 2008 to 2011 was also characterised by steady decline in the productivity of the sector (CBN, 2018). Though the sector recorded steady increase in performance from 2013 to 2018, the rate of increment was low. A trend Analysis of the rate of growth of agricultural productivity (AGR) in Nigeria is presented in Figure 1.1



**Figure 1.1: Trend Analysis of Agricultural Productivity in Nigeria**

Source: CBN (2018)

The consequences of the trend in Figure 1.1 are dire. First, given the potentials of the sector in the growth process, the pursuit of economic development in Nigeria through a diversified revenue-base will be limited. Second, the goal of poverty reduction in the rural communities in particular and the economy in general will also be bedeviled with this poor performance of the sector. While most previous studies mainly focused on the impact of investment on broad economic growth, the need for the disintegration of the sources of growth is necessary. This is because, given the critical role of investment, disaggregating the various components of growth will provide adequate guide on the role of investment in the economy. Consequently, the study investigated the effect of domestic investment on the productivity of the agricultural sector in Nigeria.

## **II. Review Of Related Literature**

### **2.1 Basic Theories: An Overview**

In the analysis of the processes of economic growth, investment/capital accumulation has always been treated as an important factor. Harrod-Domar growth theory stressed on the critical contribution of investment in the attainment and sustenance of growth in an economy. The theory further argued that so long as there exists net investment in an economy, there will be uninterrupted economic growth, as there will be perpetual increase in output and real income. Though the Solow growth model was formulated as a substitute to the Harrod-Domar line of thought, even without its key assumption of fixed proportions in production, the role of investment in the production process was also given its due recognition in the framework. In the same line of argument, which is still about the role of capital in the growth process, the endogenous growth models extended the Solow growth by introducing human capital among the determinants of output. In addition to this, the endogenous growth model treated the growth process as endogenous, that is, a process which can be attained from within the system, rather than from outside the system.

### **2.2 Empirical Literature**

The development of the agricultural sector in India through the provision of rural infrastructure was the focal point of the study of Lokesha and Mahesha (2016). The findings of the study was a pointer to the fact that adequate road infrastructure is a requisite for the development of the sector, and for the overall growth of the economy. However the findings of Ukpe, Umeh, Ater, and Asogwa (2017) indicated that investment, among other variables, is a constraint on the growth of the sector.

Taking a clue from the exogenous growth models, some researchers also focused on the impact of foreign direct investment on the growth of the agricultural sector. The findings of Oloyede (2014) indicated that foreign direct investment is a driver of the performance of the sector in Nigeria. The findings further indicated that such an impact is capable of igniting the diversification of domestic income, which will have positive multiplier effect on the performance of the sector. However, a similar study carried out for the economy of Ghana by Iddrisu, Immurana and Halidu (2015) indicated a counter outcome. The findings indicated that foreign direct investment was a significant on agricultural productivity in the long run. A confirmation of the study of Oloyede (2014) was given by the findings of Akinwale, Adekunle, and Busayo (2018).

On a broader perspective, the findings of Bakari (2017), Nweke, Odo and Anoke (2017), and Obayori, Robinson, and Omekwe (2018) indicated that investment (capital accumulation) is a key driver of economic, and by extension, a critical determinant of the performance of the various sectors of the economy. The findings of Ajose (2018) is a further confirmation of the key role of investment in an economy. The findings indicated that investment does not only granger-cause the growth of an economy, it also exert positive influence on it. Furthermore, the findings of Li, Rim, and An (2019) concluded that investment, particularly in transport infrastructure, has strong positive correlation with the growth rate of gross regional products.

### 2.3 Summary of Review and the Gap in Related Empirical Literature

The linkage between investment (capital formation) and the output level in an economy is well established in the theoretical literature on economic growth. Though the theories of economic growth evolved over time, with significant improvements, the role of investment in the production process (equation) was given due recognition. In the investigation of the real life experience of different economies, with the use of historical empirical data, literature linking investment to growth of output focused mainly on economic aggregates- the use of gross domestic product as a measure of growth in an economy {See Bakari (2017); Nweke, Odo and Anoke (2017); Obayori, Robinson, and Omekwe (2018); and Obayori, Robinson, and Omekwe (2018)}. The specific linkage and impact of domestic investment on the agricultural sector, which is a disaggregated component of gross domestic product, was not captured by these aggregated studies. The few studies which provided a link between investment and agricultural performance were exogenous in approach as the emphasis was mainly on the impact of foreign direct investment {Oloyede (2014); Iddrisu, Immurana and Halidu (2015)}. This research improved on the previous studies of this nature, as the endogenous approach was adopted. That is, seeking the improvement of agricultural performance from within the system/economy by considering the impact of domestic private investment as the key focal point. Though this research cannot be claimed to be the first of its kind, it is however an improvement on the studies of Ukpe, et al (2017). This is because, this study extends the component of investment beyond domestic private investment (see the model). Also, the findings of Ukpe, et al (2017) indicated that private investment has negative and significant impact on agricultural growth in Nigeria, and this calls for further research as the findings counters theoretical underpinning of the subject matter.

## III. Method Of Study

### 3.1 Theoretical Framework

The endogenous growth model was adopted as its basic theoretical framework of the study. This is as result of the fact that the study is focused primarily on endogenous factors which can stimulate the economic process towards attaining an all-inclusive growth pattern through the agricultural sector. Romar's variant of the model assumes the creation of knowledge as a by-product of investment, consequently, incorporates knowledge as a factor in the production function. Thus:

$$Q = \Upsilon(K) F(K_i, I_i, L_i) \quad (3.1)$$

From Equation 3.1, Q represent gross output;  $\Upsilon$  represent the public stock of knowledge from research and development K;  $K_i$  is the stock of knowledge from expenditure on research and development by firm i; and  $I_i$  and  $L_i$  are capital stock and labour stock of firm i respectively. Equation 3.1 can be re-expressed as:

$$Q = f(I, L, K) \quad (3.2)$$

Where Q is output, I is capital, K is knowledge from research and development, and L is the stock of labour

### 3.2 Specification of the Model

The model of the study was drawn from equation 3.2, where; Q can be represented with agricultural productivity (AGR) as a result of the focus of the study, I is represented with gross capital formation (GCF), L will be captured with population growth (POPG), K will be represented with government expenditure on education (EDU), and lending rate (LEND), which is control variable, is introduced to capture monetary factors in the production function. Thus the model of the study is as given in equation 3.3

$$AGR = f(GCF, POPG, EDU, LEND) \quad (3.3)$$

The econometric form of equation 3.3 is given as:

$$AGR = a_0 + a_1GCF + a_2POPG + a_3EDU + a_4LEND + E_t \quad (3.4)$$

Where  $E_t$  is the stochastic term, and  $a_1, a_2, a_3$ , are expected to be greater than zero, while  $a_4$  is expected to be less than zero

### 3.3 Estimation Technique

The research adopted the Autoregressive Distributed-Lag (ARDL) Bound testing approach, which was developed by Pesaran, Shin and Smith (2001). One of the key merits of the approach is it has the ability to

identify cointegrating vectors where there are multiple vectors (Nkoro & Uko, 2016). First, a generic ARDL was estimated using the equation below:

$$\Delta AGR = \beta_0 + \sum_{i=1}^n \beta_1 \Delta AGR_{t-i} + \sum_{i=1}^n \beta_2 \Delta GCF_{t-i} + \sum_{i=1}^n \beta_3 \Delta POPG_{t-i} + \sum_{i=1}^n \beta_4 \Delta EDU_{t-i} + \sum_{i=1}^n \beta_5 \Delta LEND_{t-i} + \Upsilon_1 AGR_{t-1} + \Upsilon_2 GCF_{t-1} + \Upsilon_3 POPG_{t-1} + \Upsilon_4 EDU_{t-1} + \Upsilon_5 LEND_{t-1} + E_t \tag{3.5}$$

Where  $\beta_0$  is the drift component, and  $\Delta$  is the first difference operator. The components with the summation sign ( $\beta_1$ -  $\beta_5$ ) is the short run error correction of the model, while the coefficients ( $\Upsilon_1$ - $\Upsilon_5$ ) is the long run equilibrium relationship, and  $E_t$  is the stochastic term.

Bound testing approach was adopted in order to check for the existence of cointegration among the variables of the model. The test is anchored on the F-statistic, and decision is that if the calculated F-statistic is below the lower bound critical value, the null hypothesis of no long run equilibrium relationship is accepted (Bosupeng, Dzator, & Nadolny, 2019) If otherwise, the null hypothesis is rejected. Thus, the existence of cointegration among the variables of the model is established.

If the existence of cointegration is established, the long run model of the impact of domestic investment on agricultural productivity in Nigeria can be estimated with the equation 3.6

$$AGR = \Upsilon_1 AGR_{t-1} + \Upsilon_2 GCF_{t-1} + \Upsilon_3 POPG_{t-1} + \Upsilon_4 EDU_{t-1} + \Upsilon_5 LEND_{t-1} + E_t \tag{3.6}$$

Further diagnostic check will be carried out for the short run dynamics, which is the error correction regression, and it will be estimated with equation 3.7 given below:

$$\Delta AGR = \beta_0 + \sum_{i=1}^n \beta_1 \Delta AGR_{t-i} + \sum_{i=1}^n \beta_2 \Delta GCF_{t-i} + \sum_{i=1}^n \beta_3 \Delta POPG_{t-i} + \sum_{i=1}^n \beta_4 \Delta EDU_{t-i} + \sum_{i=1}^n \beta_5 \Delta LEND_{t-i} + \Delta ECM_{t-1} + E_t \tag{3.7}$$

Where ECM is the error correction parameter of the model, which is obtained from the estimated cointegration model of equation (3.7). The study employed annualized time series data obtained from the Central Bank of Nigeria (CBN) Statistical Bulletin on various issues and the World Bank Development Indicators for Nigeria. The data period covered from 1981 to 2018.

#### IV. Result Presentation And Analysis

With the adoption of the ARDL, pre-test on the stationarity of the variables was carried out using the Augmented Dickey Fuller (ADF) and the Philip Perron (PP) unit root tests in order to ensure that none of the variables is stationary at second difference I(2). The summary of the outcome of the unit root tests are presented in Table I

**Table I: Summary of Unit Root Tests**

| Variables | ADF    | PP     | Order of Integration |
|-----------|--------|--------|----------------------|
| AGR       | 4.45*  | 4.32*  | I(0)                 |
| EDU       | 0.96   | 0.24   |                      |
| D(EDU)    | 3.76** | 10.38* | I(1)                 |
| GCF       | 2.37   | 3.17   |                      |
| D(GCF)    | 12.16* | 13.21* | I(1)                 |
| POPG      | 3      | 3.06   |                      |
| D(POPG)   | 5.33*  | 5.41*  | I(1)                 |
| LEND      | 2.29   | 2.22   |                      |
| D(LEND)   | 5.54   | 6.95   | I(1)                 |

Source: Researchers' computation using Eviews 10

Note: (a) At 5%, and 1%, the critical values of ADF and PP are 3.54, and 4.23 respectively. (b) D represents the first difference operator. (c) \* and \*\* indicates stationary at 1% and 5% respectively. (d) We reported all values in their absolute terms

The result on Table 4.1 indicated that, while the rate of growth of agricultural productivity is stationary at level {I(0)}, government education expenditure, gross capital formation, growth rate of population, and the lending rate became stationary after their first difference {I(1)} were taken. The combination of variables which are stationary at level and at first difference lend credence to the use of the ARDL. Coefficient diagnostic checks for bound test and long run was carried from an estimated ARDL model. Their respective outcomes are presented in Table 4.2 and 4.3

**Table 4.2: Summary of ARDL Bound Test**

| F-statistics | 1% Critical Value |             | 5% Critical Value |             |
|--------------|-------------------|-------------|-------------------|-------------|
|              | Upper Bound       | Lower Bound | Upper Bound       | Lower Bound |
| 5.87         | 4.37              | 3.29        | 3.49              | 2.56        |

Source: Researchers' computation using Eviews 10

From Table 4.2, there is the existence of cointegration among the variables of the model. This is because, the value of the upper and lower bounds at both 1% and 5% critical values are less than the value of the F-statistics. This outcome validates its associated long run estimate which is presented in Table 4.3

**Table 4.3: Long run Estimate**  
Dependent Variable: D(AGR)

| Variable | Coefficient | Std. Error | t-Statistic | Prob.  |
|----------|-------------|------------|-------------|--------|
| GCF      | -0.674072   | 0.181162   | -3.720828   | 0.0026 |
| EDU      | -0.051299   | 0.017104   | -2.999177   | 0.0103 |
| POPR     | 143.9745    | 55.89439   | 2.575831    | 0.0230 |
| LEND     | 4.468626    | 0.853876   | 5.233344    | 0.0002 |
| C        | -416.6331   | 154.3209   | -2.699784   | 0.0182 |

Source: Researchers' computation using Eviews 10

From the result of the long run estimate, gross capital formation has significant constraint on agricultural productivity in Nigeria. A percentage increase in its value will exert decreasing multiplier effect of 3.72 percent. This is in utter contrast of the theoretical underpinning of the different growth theories, and in comparison with the study of Ukpe, et al (2017), it suffices to postulate that capital formation in Nigeria may not have been channelled towards the sector in order to attain a more diversified resource-base in the economy. Also, against *a priori* expectation, human capital development has a significant limiting impact on the sector's productivity in Nigeria. One percent increase of its value exerts a decreasing multiple impact of 3 percent on the sector. The implication of this is that the quality of human resource from the nation's education system has adverse impact on the success of the sector.

Increase in growth rate of the population on the other hand is a significant boost on agricultural productivity in the long run. One unit increase in the population growth rate will have an increasing multiplier effect of 2.58 units on the sector. The direct implication of this is that the abundant human resources in Nigeria has contributed positively to the agricultural sector, and this may be a reflection of the claims of Diao, Hazell, & Thurlow (2010). Furthermore, lending rate has positive significant impact on the dependent variable, and one unit increase in its value will result to 5.23 increase the productivity of the agricultural sector in the long run. To check for short run dynamics, further coefficient diagnostic was also carried out, and the result of the ARDL error correction regression is presented in Table 4.4

**Table 4.4: Error Correction Regression**  
Dependent Variable: D(AGR)

| Variable     | Coefficient | Std. Error | t-Statistic | Prob.  |
|--------------|-------------|------------|-------------|--------|
| D(AGR(-1))   | 1.192976    | 0.250132   | 4.769388    | 0.0004 |
| D(AGR(-2))   | 0.877290    | 0.192523   | 4.556810    | 0.0005 |
| D(GCF)       | -0.018446   | 0.134251   | -0.137400   | 0.8928 |
| D(GCF(-1))   | 0.429918    | 0.180101   | 2.387086    | 0.0329 |
| D(GCF(-2))   | 0.948055    | 0.178318   | 5.316667    | 0.0001 |
| D(EDU)       | -0.187786   | 0.072797   | -2.579594   | 0.0229 |
| D(EDU(-1))   | -0.148388   | 0.066815   | -2.220888   | 0.0447 |
| D(EDU(-2))   | -0.020388   | 0.072365   | -0.281741   | 0.7826 |
| D(EDU(-3))   | -0.233413   | 0.077979   | -2.993288   | 0.0104 |
| D(POPR)      | 153.4689    | 87.47632   | 1.754405    | 0.1029 |
| D(POPR(-1))  | 144.5641    | 74.92082   | 1.929558    | 0.0758 |
| D(LEND)      | 3.511289    | 0.877951   | 3.999411    | 0.0015 |
| D(LEND(-1))  | -6.199283   | 1.343737   | -4.613463   | 0.0005 |
| D(LEND(-2))  | -3.653779   | 1.134692   | -3.220062   | 0.0067 |
| D(LEND(-3))  | -2.230718   | 0.903534   | -2.468881   | 0.0282 |
| CointEq(-1)* | -2.010283   | 0.287939   | -6.981618   | 0.0000 |

$R^2 = 0.88$ . DW = 2.09

Source: Researchers' computation using Eviews 10

From Table 4.4, one period and second period lags of the agricultural productivity have significant positive impact on its current performance. The implication of this is that the performance of the sector is self-reinforcing, consequently, the need to work towards the enhancement of the sector's performance. One percent change in their respective value will have increasing multiple effect of 4.77 percent and 4.56 percent

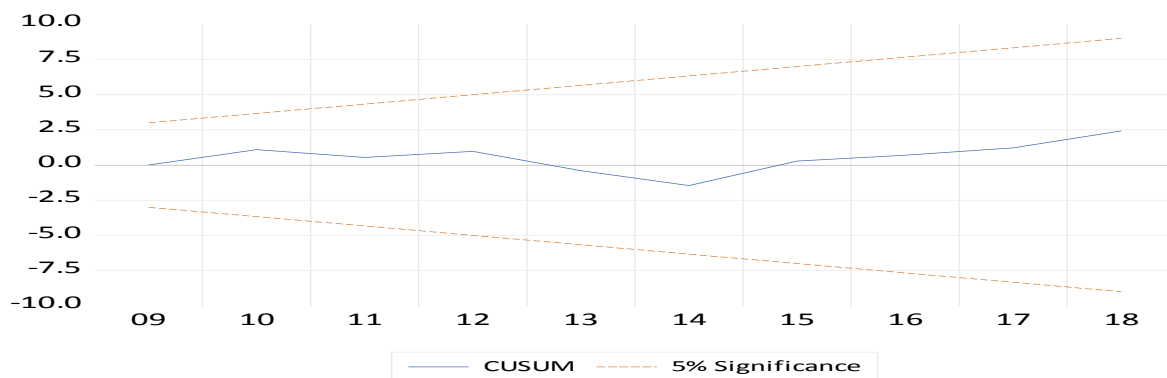
respectively. While the current level of gross capital formation has constraining impact on the productivity of the sector in the short run, the effects of its one period, and two period lags are positive and significant. One unit change in their respective values have multiple effect of 0.14, 2.39 and 5.32 units respectively. Government education expenditure is also a significant constraint on the productivity of the sector in the short run. One unit change in its current value, its one period, two period, and three period lags will have multiple effect of 2.58, 2.22, 0.28, and 2.99 units respectively. Population growth rate has positive insignificant impact on the productivity of the sector in the short run. One unit change in its current value and its one period lag will exert multiple effect of 1.75 and 1.93 respectively. On the other hand, the current level of lending rate has positive significant impact, and a unit change in its value will bring about a multiple effect of 4 on the productivity of the sector. However, the one period, two period, and three period lags of lending rate have negative and significant impact on the sector, and one unit change in their respective values will induce a multiplier effect of 4.61, 3.22 and 2.47 on the performance of the sector. The error correction term {CointEq(-1)\*} is negative and significant, and this is an indication of a satisfactory speed of adjustment. The coefficient of correlation ( $R^2$ ) of 0.88 is an indication that 88% of changes in the performance of the agricultural sector is accounted for by total changes of the independent variable all-together. Durbin-Watson (DW) of 2.09 indicates negative autocorrelation.

Residual diagnostic was also conducted and the results indicate that the residuals; are normally distributed as the corresponding *p-value* is greater than the 5% (0.05) level of significance, are not auto correlated, and are not heteroskedastic (see Table 4.5). Furthermore, the stability of the model was confirmed by the CUSUM and CUSUM of Squares. (See Figure 4.1a and Figure 4.1b)

**Table 4.5: Summary of Residual Diagnostics**

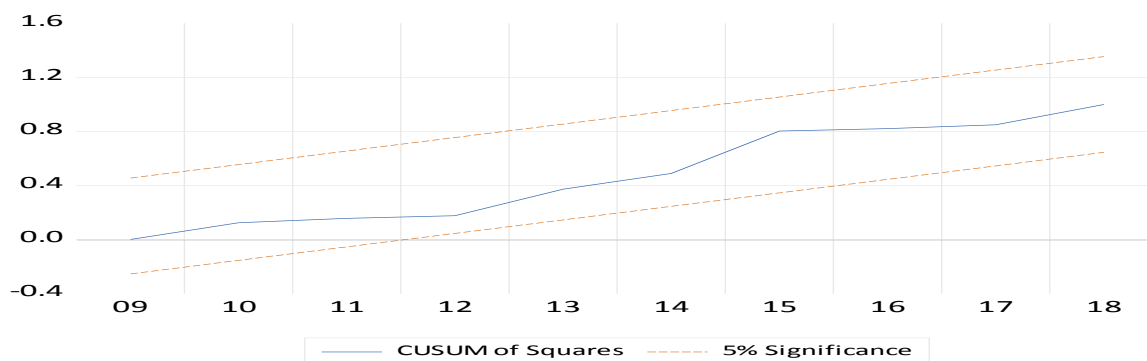
| Test                                       | Test Statistic | Probability |
|--|----------------|-------------|
| Normality: (Jarque-Bera Statistic)         | 0.15           | 0.93        |
| Serial Correlation: (F-statistic)          | 0.31           | 0.74        |
| Breusch-Godfrey Serial Correlation LM Test |                |             |
| Heteroskedasticity: (F-statistic)          | 0.69           | 0.77        |
| Breusch-Pagan-Godfrey                      |                |             |

Source: Researchers' computation using Eviews 10



**Figure 4.1a: CUSUM Test**

Source: Researchers' computation using Eviews 10



**Figure 4.1b: CUSUM of Squares**

Source: Researchers' computation using Eviews 10

## V. Conclusion And Recommendations

The study was motivated by the recent arguments which emphasizes on the need for the diversification of the resource-base of the Nigerian economy, and the fact that the Nigerian economy is endowed with vast resources that can make the development of the sector a reality. Consequently, the research was set out to assess the effect of domestic investment on the productivity of the agricultural sector in Nigeria. The study adopted ARDL with cointegrating bounds for the analysis of data, and the results indicated that domestic investment has negative significant impact on agricultural productivity in Nigeria. In addition to this, the result further indicated that the level of human capital development has negative significant impact on the productivity of the sector. Consequently, the research concludes that domestic investment, both in human and physical capital, has impacted negatively and significantly on agricultural productivity in Nigeria.

To remedy the performance of the sector in order to harness its potentials, some policy measures are necessary. First, investors should be encouraged, through certain incentives, to channel more resources to the agricultural sector. This can be achieved by providing the necessary infrastructure in the rural areas. In addition to this, since the government has the capital-base, it can be involved in agriculture through public-private partnership. The essence of the partnership is to ensure that efficiency is made a top priority as the bureaucratic processes of government agencies could mitigate the success of the venture. Second, human resource development and research should be channeled more to the agricultural sector. This can be achieved through the engagement of professionals in the training of farmers, and greater attention to agro-based research. Third, more people should be encouraged to engage further in agriculture, despite their other engagements in other sectors, and the lending rate should be sustained or further reduced in order to contribute more positively to the sector.

## References

- [1]. Anwer, M.S., & Sampath, R.K. (1999). Investment and economic growth. A paper presented at Western Agricultural Economics Association Annual Meeting. July 11-14, 1999, Fargo, ND
- [2]. Akinwale, S.O. (2018). Foreign direct investment flow and agricultural productivity in Nigeria. *IOSR Journal of Economics and Finance*, 9(4), 12-19.
- [3]. Bakare, S. (2017). The Impact of domestic investment on economic growth: New evidence from Malaysia. MPRA Paper No. 79436. Obtained online on the 06/04/2020 from <https://mpra.ub.uni-muenchen.de/79436/>
- [4]. Diao, X., Hazell, P., & Thurlow, J. (2010). The role of agriculture in African development. *World Development*. doi:10.1016/j.worlddev.2009.06.011.
- [5]. ssIddrisu, A.Z., Immurana, M., & Halidu, B.S. (2015). Impact of foreign direct investment on the performance of the agricultural sector in Nigeria. *International Journal of Academic Research in Business and Social Sciences*, 5(7), 240-239.
- [6]. Li, J., Rim, N.G., & An, J.C. (2019). Impact of transport infrastructure on trade: Evidence from the Chinese inland provinces under “one belt, one road”. *Open Journal of Business and Management*. 2019(7). 2030-2046
- [7]. Loksha, M.N., & Mahesha, M. (2016). Impact of road infrastructure on agricultural developemnt and rural road infrastructure development programs in India. *International Journal of Humanities and Social Science Interventio*, 5(11), 1-7.
- [8]. Nkoro, E., & Uko, A.K. (2016). Autoregressive Distributed Lag (ARDL) cointegration technique: Application and interpretation. *Journal of Statistics and Econometric Method*, 5(4), 63-91.
- [9]. Nweke, G.O., Odo, S.I., & Anoke, C.I. (2017). Effect of capital formation on economic growth in Nigeria. *Asian Journal of Economics, Business and Accounting*, 5(1), 1-16.
- [10]. Obayori, J.B., Robinson, M.O., & Omekwe, S.O.P. (2018). Impact of private domestic investment on economic growth in Nigeria. *Asian Journal of Economics, business, and Accounting*, 9(2), 1-9.
- [11]. Oluyede, B.B. (2014). Impact of foreign direct investment on agricultural development in Nigeria. *Kuwait Chapter of Arabian Journal of Business and Management Review*, 3(12), 14-25.
- [12]. Oyedokun, G.E., & Ajose, K. (2018). Domestic investment and economic growth in Nigeria: An empirical investigation. *International Journal of Business and Social Science*, 9(2), 130-138.
- [13]. Suberu O. J., Ajala O. A., Akande M. O., Olure-Bank, A. (2015). Diversification of the Nigerian economy towards a sustainable growth and economic development. *International Journal of Economics, Finance and Management Sciences*, 3(2), 107-114. doi: 10.11648/j.ijefm.20150302.15
- [14]. Peseran, H.M., Shin, Y., & Smith, R.J. (2001). Bound testing approaches to the analysis of level relationships. *Journal of Applied Econometrics*, 16(3), 1924-1996.
- [15]. Prabura, L. (2018). Role of agriculture in the economic development of a country. *International Journal of Commerce*, 6(3), 1-5.
- [16]. Ukpe, U.H., Umeh, J.C., Ater, P.I., & Asogwa, B.C. (2017). Effect of public external debt and private investment on agricultural growth in Nigeria. *Agricultural Research and Technology Open Access Journal*, 10(2), 31-35. DOI:10.19080/ARTOAJ.201
- [17]. Vytautas, T., & Manuela, T. (2008). Role of fixed investments in economic growth of country: Lithuania in European context. *Journal of Business Economics and Management*, 9(1), 57-64.

Otu, Emmanuel, et. al. “Impact of Domestic Investment on Agricultural Productivity: Policy Implications for the Nigerian Economy.” *IOSR Journal of Economics and Finance (IOSR-JEF)*, 12(2), 2021, pp. 01-07.