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AGRIPRENEURSHIP FINANCING AND AGRICULTURAL DEVELOPMENT NEXUS IN NIGERIA: PROSPECTS OR PROBLEMS?

Aderemi Timothy Ayomitunde
Department of Economics, Olabisi Onabanjo University Ago Iwoye, Ogun State, Nigeria
Corresponding Email: aderemi.timothy@gmail.com
Olu-Young Folake
Department of Economics, University of Lagos, Nigeria.
Email: christanayoung3@yahoo.com
Dr. Taiwo Akeem Ayinde
Depertment of Business Administration and Management, The Federal Polytechnic, Ilaro, Nigeria.
Email : taiwoakeem2002@gmail.com
Dr. Adejumo Oluwabunmi Opeyemi
Institute for Entrepreneurship and Development, Obafemi Awolowo University, Ile-Ife, Osun State, Nigeria.
Email: jumobum@gmail.com

ABSTRACT

The incorporation of entrepreneurial principles in managing agribusiness has received a global attention in the recent times. And as such, efforts have been made to investigate the relationship between agripreneurship financing and agricultural development in Nigeria between 1990 and 2018 within the framework of Fully Modified Ordinary Least Square and Granger causality. This study utilized secondary data, and the summary of the findings that emerged is stated as follows; agricultural spending and agricultural output have an insignificant positive relationship. Broad money supply has a significant positive relationship with agricultural output. However, loans to agricultural and forestry businesses have an insignificant negative relationship with agricultural output. Whereas, loans to mining and quarrying businesses and agricultural output have a significant inverse relationship. Also, there is a unidirectional causality which flows from agricultural output to agripreneurship financing. This study therefore concludes that agripreneurship financing has a problem in contributing to agricultural development in Nigeria. Consequently, this study makes the following recommendations. The policy makers in Nigeria should expend a substantial amount of government spending on agricultural sector. Commercial banks should possess a goodwill to disburse substantial part of their loans and advances to agricultural businesses. The Central Bank of Nigeria should revamp agricultural sector through agripreneurship by compelling the commercial banks, via regulation to increase the percentage of their loans and advances to SMEs in agricultural sector.

KEYWORDS: Agripreneurship; Financing: Agriculture: Development: SMEs; Nigeria

1. INTRODUCTION

Agripreneurship has been conceptualized as the application of the principles of entrepreneurship to agriculture or agricultural related businesses (Uche & Familusi, 2018). The concept of incorporating entrepreneurial principles in managing agribusiness has received a global attention in the recent times, because this concept has increased farmers` profit through the amalgamation of agriculture and entrepreneurship and also serves as employment generation strategy through the advancement of Micro, Small and Medium Enterprises (Birwa *et al.*, 2014; Nagalakshmi and Sudhakar, 2013).In Nigeria, the important role agriculture plays in national development cannot be undermined. For instance, in the case of household, it provides food for ever growing Nigerian population and employment opportunities for different categories of human resources as well. In the case of local industries, it provides raw materials for them, and in the case of the external sector of the economy, agriculture generates foreign exchange earnings to all economic agents through exports of raw materials, semi-finished and value added agricultural outputs in the global market.

However, gone are those days when agricultural outputs were the strategic part of the Nigerian economy. According to the CBN (1970), agricultural sector contributed over 70% of the nation`s output and employment opportunities in Nigeria

concurrently. In the same vein, about 90% of Nigerian foreign earnings were derived from this sector. Meanwhile, discovery of crude oil and the sudden emergence of oil boom of 1970s changed the narrative of agricultural relevance in Nigeria. Since that time, Nigerian economy has been resting solely on the shoulder of oil and gas sector, which has caused a lot of multifaceted problems in the recent times due to volatility of oil prices in the global market. One of these problems is the inability of the country to provide gainful employment opportunities for its teeming population.

Consequently, an attempt to use a holistic approach to create gainful employment opportunities for the Nigerian populace, the Nigerian government established the National Directorate of Employment programme in 1986 with a view to providing a platform for employment opportunities for the army of unemployed youths in the country. Meanwhile, one of the NDE programs focuses on the agricultural sector employment which accommodates graduates of agricultural discipline who desire to be self-employed in agriculture. Whereas, lack of finance has served as a major obstacle for the proper integration of NDE agricultural program into entrepreneurship and employment generation strategy in Nigeria because the scheme has no serious platform for the finance of new agricultural businesses and even existing entrepreneurial activities. Against this backdrop, the Nigerian policy makers introduced different financing institutions to cater for small and micro enterprises in agricultural sector. Some of these financing institutions are as follows Nigerian Agricultural and Cooperative Bank (NACB), the Family Economic Advancement Programme (FEAP), the Nigeria Agricultural Cooperation, Rural Development Bank (NACRDB).

In addition, further effort was made by the apex bank in Nigeria to improve the lending attitude of commercial banks to agricultural development by setting up Agricultural Credit Guarantee Scheme Fund (ACGSF) which provides a guarantee of 75% for all agricultural loans financed by the commercial banks in the country. From 2005, loans to farmers have been on the increase by the banks with the disbursement of ₦48.6 billion in 2005, which increased astronomically to ₦1, 88 trillion in 2015. This shows that loans to agricultural sector increased by 3000% between 2005 and 2015. (CBN 2016). Despite the fact that substantial amount of funds have been disbursed to agripreneurship financing in Nigeria, its aftermath effects on agricultural development remains questionable in the country. The focus of past studies was on determinants of supply of credit to agricultural sector in one hand and the impact of commercial banks' lending on the economy as a whole. See Okafor et al (2016); Udoka and Duke (2016); Marshal et al (2015) and Onoja (2012). In view of the above, there is a critical need for empirical investigation into the relationship between agripreneurship financing and agricultural development in Nigeria, in which this study intends to fill the gap. The organization of this study follows this pattern: section one puts forward the introduction. Meanwhile, review of the relevant literature is presented in the section two. Finally, section three contains methodology, which involves analysis of data, discussion of the results, summary and policy recommendation.

2. LITERATURE REVIEW

Studies regarding agripreneurship have been more pronounced in the literature in the recent times. Agripreneurship has been conceptualized as the application of the principles of entrepreneurship in managing agricultural ventures. However, entrepreneurship has to do with a concept that emphasizes how an idea could be transformed into a business or how an existing or established business could be expanded.In the view of Unite (2013), agricultural sector in Nigeria has some peculiarities which make it very dire for the development of agripreneurship in the country. This sector had been the strong hold of the economy of Nigeria in the past decades with engagement of significant number of the people in agriculture and agribusiness. Meanwhile, Ado (2017) submitted that the contribution of agriculture to the national output in Nigeria was the highest with the estimated figure of over 40% during the period of the colonial masters to about 29% in the recent times. Therefore, the author suggested that efforts should be made to rejuvenate the sector in order to as a pivot to the development of the country's economy. Carr and Rollin (2016) identified limited skills, lack of data, insecurity, inadequacy of resources and infrastructural facilities as the major challenges confronting the development of agripreneurial culture in developing economies. But, Salami (2011) attributed structural and cultural factors alongside the lack of political will from the Nigerian policy makers as the hindering factors to entrepreneurship in Nigeria.

However, Okojie et al (2010) asserted that the reasons why non-commercial farmers and rural women did not have access to credit from banks were due to the lack of information, collaterals and bank accounts on the part of the farmers and rural dwellers. In another perspective, Imoisi et al (2012) employed data between 1970 and 2010 in investigating the nexus between loans form deposit money bank and agricultural production in Nigeria. The authors argued that there existed a significant linkage between loans and advances from deposit money and output from agricultural sector in the country. Abdul-kemi (2014) examined the linkage between economic development and entrepreneurship within the framework of correlation and Autoregressive Integrated Moving Average (ARIMA) between 1992 and 2013. It was discovered from the study that lending of commercial banks to SMEs on aggregate significantly engineered growth and development of the Nigerian economy. In another study by Ammaini (2012) who assessed aftermath effect of formal credit on agricultural production in Nigeria. The author posited that crop, livestock and fish farming were significantly impacted by formal credit.

Furthermore, while investigating the interlink between credits from commercial banks and agricultural production in Nigeria, Udoka and Duke (2016) asserted that commercial banks credits and agricultural government expenditure had a significant positive impact on agricultural production simultaneously. In the same vein, Okafor et al (2016) examined the

impact of deposit money bank credit and nation building in Nigeria within a vector autoregressive and granger causality test. It was discovered that credit from the private sector Granger caused economic growth in the country. Meanwhile, Nnamocha and Eke (2015) estimated the relationship between bank credit and agricultural output in Nigeria between 1970 and 2013 employing the technique of Error Correction Model. The finding of the study could be summarized as follows; bank credit brought about a significant contribution to agricultural output in the country in the long run. While, in the short run, it was only industrial output that led to a positive contribution to agricultural productivity in the country. Muritala, Awolaja and Bako (2012) provided empirical evidence in analyzing the linkage between small and medium enterprises, economic growth and development in Nigeria. The authors utilized a survey technique to conclude that small and medium scale businesses were hindered in Nigeria by limited financial support, infrastructural deficiencies, inefficient management, corruption, insufficient training and experience, low gains and low patronage of products and services in the market. Oladele, Akeke, and Oladunjoye (2011) used a technique of multiple regression in investigating the aftermath effect of entrepreneurship development on unemployment reduction in Nigeria. It was argued in the study that the current rising in the level of unemployment could be ameliorated if the various agencies of the Nigerian government facilitate entrepreneurship in the country.In summary, literature has shown that financing is a very strategic variable that cannot be undermined in agripreneurship, and its impact on agricultural development remains a subject of debate in Nigeria. Hence, the relevance of this study.

3. METHODOLOGY

This study sourced data from the Central Bank of Nigeria statistical bulletin because secondary data from 1990 to 2018 were utilized in the study. In an explicit form, data on commercial banks loans to Small and Medium enterprises in agriculture and forestry, mining and quarrying sub sector, broad monetary supply and Agricultural GDP in Nigeria were used for this study.

3.1 Model specification

In analyzing the relationship between agripreneurship financing and agricultural development nexus in Nigeria, this study makes use of multiple regression model, which could be specified as follows:

$$AGP = f (AFF, AGS, MQF, BMS) \qquad (1)$$

Linearizing model (1) leads to model (2)

$$AGP_t = \delta_0 + \delta_1 AFF + \delta_2 AGS + \delta_3 MQF + \delta_4 BMS + U_t \qquad (2)$$

3.2 The direction of causality between agripreneurship financing and agricultural development in Nigeria

In examining the Granger causality test between agripreneurship financing and agricultural development variable, the model for this would be estimated in VAR modelling illustrated in equation (3-5) which states thus;

$$AGP_t = \alpha_0 + \sum_{i=0}^{p} \alpha_1 AGP_{t-1} + \sum_{i=0}^{p} \alpha_2 AFF_{t-1} + \sum_{i=0}^{p} \alpha_3 MQF_{t-1} + U_{1t} \qquad (3)$$

$$AFF_t = + \beta_0 + \sum_{i=0}^{p} \beta_1 AFF_{t-1} + \sum_{i=0}^{p} \beta_2 AGP_{t-1} + \sum_{i=0}^{p} \beta_3 MQF_{t-1} + U_{2t} \qquad (4)$$

$$MQF_t = \gamma_0 + \sum_{i=0}^{p} \gamma_1 MQF_{t-1} + \sum_{i=0}^{p} \gamma_2 AGP_{t-1} + \sum_{i=0}^{p} \gamma_1 AFF_{t-1} + U_{3t} \qquad (5)$$

It is important to state that AGP is used to denote agricultural development which is measured by the contribution of agriculture to annual GDP. AFF is used to capture commercial banks loans to the agriculture and forestry businesses. While MQF represents commercial banks loans to mining and quarrying businesses. AGS denotes government expenditure on agricultural sector and BMS is broad money supply. t ranges from 1990 to 2018 and U_t is the error term. The aprori expectation is that all the parameters are supposed to be positive.

4. RESULTS AND ANALYSIS

Table 1: Descriptive Statistics of Annual Data Series (1990-2018)

Descriptive Statistics	AGP	AFF	AGS	MQF	BMS
Mean	8.02E+12	155.9963	2.06E+10	681.5864	6744.921
Median	4.59E+12	59.84970	1.63E+10	131.0556	2131.819
Maximum	4.19E+13	556.6700	6.54E+10	2215.741	25079.72
Minimum	1.07E+11	4.221400	2.10E+08	0.000000	47.42329
Std. Deviation	9.37E+12	183.6288	1.92E+10	841.6815	7998.668
Skewness	0.802521	0.138157	0.621232	0.777533	0.955427
Kurtosis	6.837892	2.727539	2.342252	2.542415	2.526001
Jargue-Bera	33.50194	6.350805	2.388089	4.273536	4.683543
Probability	0.000000	0.041777	0.302993	0.118036	0.096157
Sum	2.33E+14	4523.894	5.98E+11	19766.01	195602.7
Sum. Sq. Deviation	2.46E+27	944147.0	1.03E+22	19835977	1.79E+09
Observation	29	29	29	29	29

Source: Authors` Computation (2020)

In checking the symmetrical nature of the time series data employed for this study, an attempt was made to investigate the descriptive statistics of the dataset used to capture various variables of interest during the period of 29 years. It is instructive to state that AGP which proxies agricultural development has a mean value of 80 billion with standard deviation of 90 billion. This indicates that AGP data show some deviations from the both sides of the mean. The standard deviation of the data is greater than its mean value, therefore the data were widely dispersed from 1990 to 2018. Skewness and Kurtosis value are 0.802521 and 6 respectively. The data are skewed positively but did not agree with the assumption of symmetrical distribution. In the same vein, AFF which represents loans to agricultural and forestry businesses has mean value of 155 million and standard deviation of 183 million. This shows that standard deviation is greater than the mean value. The implication of this is that the data were widely dispersed during the period under investigation. It has skewness and Kurtosis values of 0.138157 and 2 at the same time. This implies that the data are positively and skewed and at the same time agreed with symmetrical distribution assumption. Moreover, government expenditure on agriculture has a mean value of 2 billion and standard deviation of 1.9 billion. The data were moderately dispersed because the mean value is greater than the standard deviation. The values of skewness and Kurtosis attest that the data were positively skewed and agreed with the assumption of symmetry. However, loans to mining and quarrying businesses has a mean value of 681 million with the standard deviation of 841 million. The standard deviation value of the data is bigger than its mean value. This caused the data to be widely dispersed from its mean. The data are positively skewed and agreed with the assumption of normal distribution because its Kurtosis value is close to 3. Also, broad money supply data have similar features with the previously discussed data. This implies that the dataset used for econometric analysis in this study is fairly distributed.

Table 2: Unit Root Test

Variables	ADF Test				
	Level	Probability	1st Diff	Probability	Remark
AGS	-2.971853***	0.0589	-	-	I(0)
AFF	-2.976263***	0.9997	2.971853***	0.0000	I(1)
AGP	-2.976263***	0.9443	-2.976263***	0.0000	I(1)
MQF	-2.986225***	0.9810	-2.986225***	0.3366	I(2)
BMS	-2.971853***	1.0000	-2.981038***	0.6752	I(2)
Variables	PP Test				
	Level	Probability	1st Diff	Probability	
AGS	-2.971853***	0.0680	-2.976263***	0.0001	I(1)
AFF	-2.971853***	0.9995	-2.976263***	0.0000	I(1)
AGP	-2.971853***	0.9423	-2.976263***	0.0000	I(1)
MQF	-2.971853***	0.9790	-2.976263***	0.0009	I(1)
BMS	-2.971853***	1.0000	-2.976263***	0.2413	I(2)

*Source: Authors` Computation (2020)*** %5 level*

There is a need to begin the econometric estimation in this study with the check for the stationarity property of the employed variables. This becomes imperative because time series data cannot be totally exonerated from unit root problem, which could render the results of the study to be useless. Therefore, the unit root test was performed within the framework of

augmented Dickey-Fuller (ADF) and Philips-Perron (PP) tests. From table 2, it could be indicated that the variables of interest are stationary at level, at first differencing and second differencing. This implies that these variables are combination of I(0), I(1) and I(2) series, and such the long run relationship between the variables within Johansen cointegration test technique could be considered in the next table.

Table 3: Johansen Cointegration Test (Trace Statistics) and (Maximum Eigenvalue)

Null Hypothesis	Eigenvalue	Trace Statistics	P-value	Maximum Eigenvalue	P-value
r=0	0.815899	99.05446	0.0001	45.69131	0.0013
r≤1	0.544064	53.36315	0.0139	27.58434	0.2640
r≤2	0.393468	32.15726	0.0263	21.13162	0.4074
r≤3	0.335046	18.65732	0.1161	14.26460	0.1534
r≤4	0.246461	7.640316	0.0057	3.841466	0.0057

Source; Authors` Computation (2020)

Majority of the variables in the study possess unit roots which could orchestrate short run disequilibrium. However, these variables could have a long run convergence. This motivates the adoption of Johansen and Juselius (1990) multivariate cointegration test in this work to validate if there is a long run relationship among these variables. Consequently, the maximal eigen value statistics and the trace statistics established that the variables have at most three (3) cointegrating equations. This justifies the existence of long run relationship among these variables. Hence, this study examines the long run relationship among these variables via Fully Modified Least Square (FMOLS) approach.

Table 4: Regression Estimates for Agripreneurship Financing and Agricultural Development in Nigeria

Variable	Coefficient	T Value	Prob. Value
AGS	59.09710	1.532071	0.1391
AFF	-1.00E+10	0.759642	0.4552
BMS	2.03E+09*	4.247416	0.0003
MQS	-8.45E+09**	2.681923	0.0133
R-Squared	0.733887		
Adjusted R-Squared	0.687606		

Authors` computation (2020) **Significant at 5%,* Significant at 1%

Dependent Variable: AGP
Method: Fully Modified Least Squares (FMOLS)

The regression estimates between agripreneurship financing and agricultural development were presented in table 4. It was observed that the coefficients of broad money supply and expenditure on agriculture agreed with the aprori expectation, whereas other regressors showed otherwise. Meanwhile, all the explanatory variables in the model jointly accounted for about 73% of dependent variable`s systematic variations in the model, leaving 27% unaccounted for. This suggests that the model utilized for this analysis is relatively efficient. Furthermore, agricultural spending and agricultural output have a positive relationship. Though, the relationship is not significant at 10% level of significance. The reason for this insignificance might be as a result of little or no attention of the policy makers to the agricultural development in Nigeria. Broad money supply has a significant positive relationship with agricultural output in Nigeria. A unit change in broad money supply leads to 2% increment in agricultural output in the country.

However, loans to agricultural and forestry businesses has a negative relationship with agricultural output in Nigeria, though the relationship is not significant. In the same vein, loans to mining and quarrying businesses and agricultural output have an inverse relationship which is significant at 5% level of significance. A unit increase in loan to mining and quarrying businesses leads to a reduction in agricultural output by 8%. This could be concluded in this study that agripreneurship financing has not contributed to agricultural development in Nigeria. The reasons for this outcome could be linked with the inadequate disbursement of loans and advances to agricultural businesses by the financial institutions in Nigeria. This finding contradicts the submission of Udoka and Duke (2016) and Nnamocha and Eke (2015) in related studies in Nigeria.

Table 5: Pair wise Granger Causality Test

Sample: 1990 2018			
Lags: 2			
Null Hypothesis:	Obs	F-Statistic	Prob.
AFF does not Granger Cause AGP	27	2.74046	0.0866
AGP does not Granger Cause AFF		5.24231	0.0137
MQF does not Granger Cause AGP	27	0.68012	0.5169
AGP does not Granger Cause MQF		6.79984	0.0050
MQS does not Granger Cause AFF	27	9.21257	0.0012
AGF does not Granger Cause MQS		0.73333	0.4917

Authors` computation (2020)

In examining the feedback effect between agripreneurship financing and agricultural development in Nigeria, further efforts were made to subject three principal variables in this study to Pair wise Granger Causality Test. As indicated in table 4, there is a unidirectional causality which flows from the variable used to proxy agricultural development to both agricultural and forestry businesses financing and mining and quarrying businesses financing. This implies that development of agricultural sector motivating the financing of agriprenuership in Nigeria. Also, mining and quarrying businesses financing Granger causes agricultural and forestry businesses financing in the country.

5.   DISCUSSION AND CONCLUSION

Efforts have been made to investigate the relationship between agripreneurship financing and agricultural development in Nigeria between 1990 and 2018 within the FMOLS and Granger causality approach. The summary of the findings that emerged in this study could be stated as follows; agricultural spending and agricultural output have an insignificant positive relationship. But, broad money supply has a significant positive relationship with agricultural output in Nigeria. However, loans to agricultural and forestry businesses has an insignificant negative relationship with agricultural output in Nigeria. Whereas, loans to mining and quarrying businesses and agricultural output have an inverse relationship. Also, there is a unidirectional causality which flows from agricultural output to agripreneurship financing. This study therefore concludes that agripreneurship financing has a problem in contributing to agricultural development in Nigeria over the periods under investigation. Consequently, this study hereby makes the following recommendations based on the crucial findings that emerged in this work. Firstly, the policy makers in Nigeria should expend a substantial amount of government budget on agricultural sector. In addition, deposit money banks/commercial banks should possess a goodwill to disburse substantial part of their loans and advances to agricultural businesses in the country. The Central Bank of Nigeria could develop agricultural sector through agripreneurship by compelling the commercial banks, via regulation to increase the percentage of their loans and advances to SMEs in agricultural sector.

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