BANK CREDIT AND NIGERIAN AGRICULTURAL DEVELOPMENT

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Abstract

In this study, the financial institution lending's effect on Nigeria's agricultural development was examined. This study examined the major impacts of government spending on agriculture (GEXA), interest on bank borrowing (IBB), and deposit money bank credit to the agricultural sector (DMBCA) on the gross domestic product (GDP) of selected agricultural enterprises in Nigeria. The annual reports of Ellah Lakes Plc, FTN Cocoa Processors Plc, Livestock Feed Plc, Okomu Oil Palm Plc, and Presco Plc and the Central Bank of Nigeria (CBN) annual statistical bulletins—Real Sector were used to gather secondary data on all significant factors for the years 2016 to 2020, which was then analyzed using correlation and multiple regression analysis using ordinary least squares. The study's conclusions demonstrate that government spending on agriculture (GEXA) and deposit money bank credit to agricultural sectors (DMBCA) has significant impact on gross domestic product (GDP) of particular agricultural firms in Nigeria, whereas the impact of interest on bank borrowing (IBB) is negligible. Accordingly, the study recommended that the government should subsidize loans to the agricultural sector in order to increase productivity and the standard of living for the average Nigerian citizen; it also suggested that government should develop policies that will encourage banks to lend to farmers at a reduced interest rate; and that agricultural extension services be made available to farmers in order to keep them up to date with contemporary farming methods (correct application of manure, herbicides, and transgenic sprouts, along with many other things). To provide these extension services, government should enter into contract with big firms, and these businesses should be paid according to the value of the services they provide.

Keywords: Bank Credit, Government Expenditure on Agriculture, Interest on Bank Borrowing, Gross Domestic Product

INTRODUCTION

CBN (2015) states that Nigeria is blessed with a sizable area of arable farmland, waterways, flows, lagoons, woodland, and pastures in addition to a sizable working - age people, all of which can support a massively lucrative and resourceful farming industry, guaranteeing consciousness in produce for the manufacturing industry, providing steady work for the burgeoning population, and generating export earnings for the workforce.

Sadly, since the discovery of oil, agriculture's contribution to economic growth has been shrinking. The underwhelming performance of Nigeria's agriculture sector is caused by a number of causes. These include lack of adequate finance supply, virtual abandonment of the industry, inadequate access to contemporary inputs and technology (Enyim, Ewno & Okoro, 2013). Low investment capital is the main obstacle to agricultural development in Nigeria, along with the issue of limited access to modern technologies (Salami & Arawomo, 2013). The conventional role of banks is to act as financial intermediaries (deposit money banks). Banks work to make it easier to transfer funds from spending units with extra cash into a variety of economic sectors through financing. By encouraging savings, supplying capital for development, fostering trade, acting as investment inducement agents, providing managerial advice to small-scale industrialists, assisting in the development of the crucial capital market, and encouraging the expansion of international trade, they act as vital catalysts for Nigeria's economic growth (Ajie, 2015).

Udih (2014) asserts that rising agricultural output of goods and services will boost bank credit's beneficial effects on the economy's actual sectors. He believed that proper finance for agricultural initiatives would not only increase food security but would also boost the young investors' entrepreneurial abilities. Numerous studies, including those by Enyim et al., (2013) have pointed to the inadequate credit availability as one of the reasons for Nigeria's agriculture

sector's lackluster performance. According to Obilor (2013), commercial banks in particular don't seem to be very interested in lending money to farmers. The Central Bank of Nigeria developed the Agricultural Credit Guarantee Scheme (ACGS) to safeguard banks against the inherent risk connected with agricultural lending. Due to the high capital expenditure and labour intensive nature of agricultural financing, this strategy was unable to accomplish its stated goals (Nwankwo, 2013).

Beyond the realm of plausible imagination is the outcome of the high expense of living and the high jobless rate. Clearly, efforts by the government to strengthen Nigeria's agriculture sector have not produced the anticipated results (Udensi, Orebiyi, Ohajianya & Eze, 2012). Therefore, more research is required to determine how bank loans have affected Nigeria's agricultural development. The impacts of bank credit on agricultural development in Nigeria are extensively discussed in the literature; however there is little evidence from earlier research that empirically looks at the connection between bank credit and agricultural development in the nation. Thus, to the best of the researcher's knowledge, there is no literature on listed agricultural enterprises in Nigeria, and this has been the legitimate gap for this investigation.

The implications of commercial loanable funds on the agricultural production

The term "commercial loanable fund" refers to the borrowing power made available by the banking system in the form of loans to a person, a government, a business, or an organization. CBN (2003) defined bank credit as the total of loans and advances made to economic agents by the banking sector. In order to help secure loan repayment in the event of default, bank credit is frequently accompanied with some forms of collateral. Credit promotes economic expansion by directing resources toward worthwhile ventures. The ability to act as an intermediary is made feasible by the availability of credit, which is essential for the growth of the economy. The total amount of domestic bank credit is divided equally between credit to the public sector and credit to the private sector. While credit to the private sector is the sum of all loans and advances provided by banks to individuals and businesses, public credit refers to loans and advances made to the government and its agencies. (Sunny, 2013). Credit is the term used to describe the lending of funds by the lender to the borrower. According to Spencer (1977), which was cited by Asukwo, Owui, Olugbemi, and Richard (2020), credit is a pledge made by one party to repay another for money borrowed or products and services acquired. Because banks operate as a conduit for the money to be moved from the surplus sections of the economy to the deficit parts of the economy that need money for productive purposes, credit cannot be isolated from the banking sector.

Boserupian Theory of Agricultural Development

This idea was developed by Danish economist Ester Boserup, as mentioned by Ekeh (2014). According to the Boserian theory, the number of the people (labor force) engaged in agricultural activity determines the growth and development of agriculture. This contradicts the Malthusian idea, which holds that population size and growth rely on agricultural practices and food production; when there is insufficient food for everyone, the extra population perishes. In times of stress, according to Boserup, people will discover ways to enhance food production by increasing labor force, equipment, and fertilizers.

Athanasius (2017) examined the relationship between bank loan and agriculture sector performance in Nigeria from 1980 to 2014 using the Ordinary Least Square (OLS) and Error Correction Model (ECM). According to the study, bank credits to agriculture, foreign exchange rates, government spending on agriculture, and money supply all have positive but significant relationships with agricultural gross domestic product, in addition to interest rates, which have a positive but insignificant relationship with it (AGDP). Similar to this, Jonathan and Cynthia (2017) looked into how deposit money bank credit affected agricultural productivity in Nigeria using an error correction model and annual time series data from 1981 to 2014. The results demonstrate an equilibrium relationship between the variables. Agricultural loans from deposit money banks have a positive and considerable long-term impact on agricultural productivity, but this effect is quite minor in the near term. The effects and elements that influenced the loans and advances deposit money banks made to Nigeria's agricultural sector between 1980 and 2011 were analyzed by Uzomba, Chukwu, Jumbo, and Nwankwo (2014). The following approaches were used: Granger Causality Test, Stationary Test, Co-integration Test, Multiple OLS Regression, and Parsimonious Error Correction Mechanism.

METHODOLOGY

An exploratory ex-post facto design is used in this study to pinpoint the variables that influence agricultural growth and bank lending. Prior to June 30, 2021, all agricultural enterprises listed on the Nigerian stock exchange were selected as the sample for this study. Ellah Lakes Plc, FTN Cocoa Processors Plc, Livestock Feed Plc, Okomu Oil Palm Plc, and Presco Plc are a few examples of the sample companies. Only secondary techniques of data collection were used, in accordance with the study's aims, to gather information regarding bank lending and agricultural development of listed agricultural enterprises in Nigeria. The Central Bank of Nigeria's (CBN) annual statistical bulletin and the annual reports of the chosen enterprises for the years 2016 to 2020 were used to compile the secondary data on all important variables. The ordinary least squares statistical approach of multiple regression analytical technique and interpretation was utilized to analyze the data acquired for this work. The association between the dependent and independent variables was established using this model.

Model Specification

In developing this research on the impact of bank lending on Nigerian agriculture, we create a compact version of our model as follows:

$$\boldsymbol{Y = \beta 0 + \beta 1 X1 + \beta 2 X2 + \beta 3 X3 + \varepsilon}$$

Where

Y	=	Dependent variable of company
X	=	Independent variable of company
b_0	=	Intercept for X variable of company
b_1-b_3	=	Coefficient for the independent variables x of companies, denoting the nature of relationship with dependent variable Y (or parameters)
X_1, X_2, X_3	=	Regression coefficients
ε	=	the error term
n	=	Coefficient for each of the independent variables.

When researchers substitute our stated variables into the general least square model mentioned above, they get the following result:

$$\boldsymbol{(AGDP)yt = \beta 0 + \beta 1 (DMBCA)yt + \beta 2 (GEXA)yt + \beta 3 (IBB)yt + \varepsilon i}$$

Where

AGDP = Agricultural Gross Domestic Product

DMBCA = Deposit Money Banks' Credit to Agricultural Sectors

GEXA = Government Expenditure on Agriculture

IBB = Interest on Banks' Borrowing

RESULTS

Table 4.1: Descriptive Statistics

Variables	Mean	Std. Deviation	N
GDP	1.3017	0.12937	25
DMBCA	14.33	0.816	25
GEXA	6.17	0.753	25
IBB	3.17	0.753	25

Source: Author's SPSS Output (2021)

The descriptive statistics for the study period are shown in Table 4.1 above. Government spending on agriculture (GEXA), interest on banks' borrowing (IBB), and deposit money banks' credit to agricultural sectors (DMBCA) all have positive mean values that vary from 3.17 for interest on banks' borrowing (IBB) to 14.33 for deposit money banks' credit to agricultural sectors (DMBCA). Deposit money banks' (DMBCA) lending to the agricultural sector

and government spending on agriculture (GEXA) and interest on banks' borrowing (IBB) have a standard deviation of 0.816, 0.753, and 0.753, respectively. This shows that the data set's observations are significantly spread from the mean. The aforementioned table also reveals that the mean and standard deviation for interest on banks' borrowing (IBB), which are 3.17 and 0.753, respectively, are the lowest. Pearson correlation was used to assess the associations between the variables under study, and the results are shown in table 4.2 below.

Table 4.2: Correlations

	DMBCA	GEXA	IBB
Pearson Correlation GDP			
DMBCA	.626		
GEXA	.414	.505	
IBB	-.066	.198	.261
Sig. (1- tailed) GDP			
DMBCA	.001		
GEXA	.025	.007	
IBB	.382	.182	.115

*At 0.05 levels, correlation is significant (5 percent)
**At 0.001 levels, correlation is substantial (1 percent)
Source: Author's SPSS Output (2021)

Table 4.2 demonstrate that government spending on agriculture (GEXA) and deposit money bank lending to agricultural sectors (DMBCA) have very strong positive relationships with gross domestic product (GDP), whereas interest on bank borrowing (IBB) has a weakly positive relationship with GDP (GDP). The strength of these associations is in fact 62.6 percent, 41.4 percent, and -6.6 percent for government expenditure on agriculture (GEXA), interest on banks' borrowing (IBB), and deposit money banks' credit to agricultural industries, respectively. This suggests that if government spending on agriculture (GEXA) and deposit money banks' lending to the agricultural sector (DMBCA) rise, so will the gross domestic product, however the GDP will fall as bank borrowing interest rises (IBB).The amount of credit given by deposit money institutions to the agriculture industry is positively correlated with GDP. Deposit money banks' lending to agricultural sectors is statistically significant at 0.001 at the tailed significance level of 1 percent. Although there is a positive association between government spending on agriculture (GEXA) and GDP, the statistical significance is just 0.025 at the one-tailed 1% level of significance. The association between the interest on banks' borrowing (IBB) and the GDP is negative and statistically negligible.

The chart also demonstrates that, at 50.5 percent, 19.81 percent, and 29.3 percent, respectively, deposit money banks' lending to agricultural sectors (DMBCA) and government expenditure on agriculture (GEXA) have a positive relationship with each other. In contrast to government expenditure on agriculture (GEXA), which exhibits statistically insignificant correlation with deposit money banks' credit to agricultural sectors (DMBCA) at the level of significance of 0.007 percent, interest on banks' borrowing (IBB) exhibits statistically insignificant correlation with both. Government spending on agriculture (GEXA) and interest on bank borrowing (IBB) have a tenuous positive link. The table shows that the audit committee's (AC) 18.2 percent interest on banks' borrowing (IBB) is statistically negligible.

Table 4.3:Model Summary

Model	R	R^2	Adj R^2	Std. Err. of the Est.	Change Statistics					Durbin-Watson
					R^2 Change	F Change	df1	df2	Sig. F Change	
1	.768[a]	.589	.469	.06545	.589	4.879	5	19	.006	2.128

a. Predictors: (constant) DMBCA, GEXA, IBB
b. Dependent Variable: GDP
Source: Author's SPSS Output (2021)

The coefficient of multiple determination R-square, which expresses how much the independent variables affect the dependent variable, as shown in Table 4.3 above. In this instance, 0.589, or 58.9 percent, of the variations in the independent variable were explained by the dependent variable. The modified R-square, a more cautious estimation of the coefficient of determination, indicates that it is less than 50%. In this case, 0.469, or 46.9%, of the variations in the dependent variable cannot be explained by the independent variables. Consequently, just 0.531 or 53.1 percent of the fluctuation in the GDP of the chosen agricultural firms in Nigeria is explained by factors other than the independent variables chosen for this study. This shows that the key determinants of such variation are not government spending on agricultural sectors, deposit money banks' credit to those businesses, agriculture (GEXA), and interest on banks' borrowing (IBB). This table also includes the outcomes of the f=4.879 test, which has a significance level of 0.006 with df (5.7) and Durbin-Watson of 2.128.

Table 4.4: Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	-.071	.047		-1.500	.152
DMBCA	-.053	.020	.489	2.620	.018
GEXA	.002	.003	.096	.505	.620
IBB	-.006	.006	-.153	-.923	.369

a. Dependent variable: GDP
Source: Author's SPSS Output (2021)

The deposit money banks' credit to agricultural sectors (DMBCA) has a strong positive relationship with gross domestic product, with a statistical significance threshold of 0.018 of 5%. (GDP). This conclusion is made stronger by the fact that the t-calculated value for DMBCA is higher than the critical value of t=2. The null hypothesis that there is a relationship between the gross domestic product (GDP) of specific agricultural firms in Nigeria and deposit money banks' loan to agricultural sectors is thus rejected by the data's majority (DMBCA). This table also demonstrates how lending by deposit money banks (DMBCA) to the agricultural sector has an effect on certain agricultural firms' GDP in Nigeria. This means that changes in deposit money banks' loans to the agricultural sectors have little to no impact on the gross domestic product of a select few agricultural firms.

DISCUSSION

Government spending on agriculture (GEXA) is statistically significant for some agricultural enterprises' gross domestic product, as shown by the value of 0.505 t*2 in table 4.2. This indicator demonstrates a significant positive association between government expenditure on agriculture (GEXA) and the gross domestic product of the chosen agricultural enterprises in Nigeria. However, the t-calculated of GEXA is statistically significant due to its significance level of 0.620. As a result, it recommends that the alternative hypothesis (Hi) be adopted and the null hypothesis (Ho) be disregarded. This indicates that the gross domestic product of the chosen agricultural enterprises in Nigeria and government expenditure on agriculture (GEXA) are related. The gross domestic product of a few agricultural enterprises hardly changes when government spending on agriculture changes.
Additionally, table 4.2 on interest on banks' borrowing (IBB) shows that it is statistically insignificant to some agricultural enterprises' gross domestic product with a value of 0.198 t*2. This indicator demonstrates a positive link between interest on bank borrowing (IBB) and the gross domestic product of the chosen agricultural enterprises in Nigeria, which is not statistically significant. However, the t-calculated of IBB is statistically negligible due to its significance level of 0.369. As a result, it recommends accepting the null hypothesis (Ho) and rejecting the alternative hypothesis (Hi). Therefore, there is no correlation between the gross domestic product of the chosen agricultural enterprises in Nigeria and interest on banks' borrowing (IBB). A decrease in borrowing costs for banks will result in an increase in GDP that is multiplied by the IBB's estimate of that rise. So it would seem that IBB is not a significant factor in determining GDP.
GDP = 0.071+0.053 (DMBCA)+0.002 (GEXA)-0.006 (IBB) + u is the emerging multiple regression equation, and the test output supplied below considerably increases the reliability of the results.

CONCLUSION

Government spending on agriculture (GEXA), interest on bank borrowing (IBB), and deposit money banks' credit to the agricultural sector (DMBCA) were the three key measures of bank credit employed in this study. These three measures are most typically used when examining the available literature. To evaluate the effects of bank lending on Nigeria's agricultural development, certain measurements are required. The employed metric of agricultural progress is gross domestic product (GDP). The findings show that while government spending on agriculture (GEXA) and deposit money banks' loan to agricultural sectors (DMBCA) have a substantial positive association with GDP, interest on bank borrowing (IBB) has a positive relationship with GDP but is statistically insignificant. The findings also demonstrate that, during the study year, government spending on agriculture (GEXA) and deposit money bank credit to agricultural sectors (DMBCA) have a significant impact on the gross domestic product (GDP) of selected agricultural firms in Nigeria, whereas interest on bank borrowing (IBB) has no significant impact.

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