

# Effects of Interest Rate Deregulation on Agricultural Financing in Nigeria from (1970 to 2014)

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## Abstract

The study of effects of interest rate deregulation on agricultural financing in Nigeria (1970-2014). The study also specifically examined the trend in the rate of interest, volume of credit to agricultural sector and agricultural GDP contribution under the period (1970-2014). The study employed descriptive/trend statistics, ordinary least square regression and correlation analysis to achieve its results. Secondary data used for the study were computed from CBN Statistical bulletin 2014. The results show that interest rate has a strong influence in the volume of credit to the agricultural sector and it also has weak influence on the agricultural GDP contribution. It was also observed that interest rate has been fluctuating under the period (1970-2014) that have resulted to low productivity, and unemployment in agricultural sector but makes the financial institutions to be willing to disburse credit to the public. The agricultural GDP contribution has a downward and upward trend during the period which is as a result of the neglect of the government based on the discovery of oil and lastly there was an upward trend in the volume of credit to the agricultural sector, which means funds were sent to the sector by government but because of bureaucratic processes most farmers are unable to access it.

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*Index terms—*

## 1 Introduction

Interest rates affect the level of consumption on the one hand and of the level and pattern of investment on the other hand. They are crucial in financial intermediation which involves transferring funds from surplus units to deficit units in the economy (CBN, 2014). In general, interest rates are useful in gauging financial market conditions and they are major tools of monetary policy.

Deregulation in interest rate has really affected the rate or level of agricultural financing. The interest rate is the price of capital, which reflects its productivity in increasing output. The interest rate should be at the competition level. When it is fixed below the market-clearing rate, only a few privileged borrowers gain access to cheap, often rational credit. When this problem is compounded by high inflation, interest rate becomes negative in real terms, which hampers savings, mobilization and investment.

A major objective of the deregulation exercise in the Nigerian Financial system in the second half of the 1980's was to increase savings for investment and economic growth. But despite this effort, economic growth is still in the doldrums. The deregulation exercise has been met with mixed feelings in Nigeria. While some believe it would enhance economic performance in Nigeria, others have contrary opinion. Nwankwo (1989) believes that interest rate deregulation will definitely lead to more efficient allocation of financial market resources. It is in line with the arguments of Onu (1993) and Shaw (1973). Abiodun (1988), on the other hand holds that deregulation of interest rate is like a double-edged sword, which either stimulates or mars the economy. He asserted that the deregulation of interest rate will lead to an increase in interest rate which will increase

## 7 B) TREND IN GDP OVER THE PERIOD (1970-2014)

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43 savings. However, he opined that high cost of borrowing might bring about cost -push inflation as borrowers of  
44 fund will push the high cost of borrowing to the customer by pushing up prices. Ojo (1988) and Ani (1988) are  
45 both of the opinion that interest rate deregulation would mar the Nigerian economy. In their separate papers,  
46 they flawed the deregulation exercise, claiming it would discourage investment and enhance economic growth,  
47 by pushing up interest rates. Ojo and Ani's position are supported by Okopi (2008) and Sanusi (2002) who  
48 all pointed out the low positive impact of deposit rate on economic growth after interest rate liberalization in  
49 Nigeria. These contrary opinions about the effectiveness of the deregulation exercise in Nigeria raises the issue of  
50 the effectiveness of the deregulation exercise. There is therefore the need for a comprehensive evaluation of the  
51 role of interest rate deregulation in agricultural financing in Nigeria. It is against this backdrop that this research  
52 work sought to evaluate its effect. The need for the study is highly justified taking into notice its importance to  
53 farmers, students, researchers, professionals, teachers of economics, accounting, agricultural economics, Nigeria  
54 Government, World Bank, IMF and F.A.O. generally.

55 The study would provide means of empirical testing and validation of theories behind the financial indicators  
56 in agricultural credit demand. The study will improve our understanding of core issues and constraints to advice  
57 government and other bodies in the financial management to achieve agricultural growth and development.  
58 Information obtained from the study will help in providing useful methodological guidelines for increasing the  
59 consumption and in predicting future credit demand for agricultural investment. It will provide material for  
60 improving the human resources through the better quality of teaching of students in Agricultural economics.

61 The main objective of the study is to examine the effects of interest rate deregulation on agricultural financing  
62 in Nigeria.

63 i. The specific objectives of the study are to: ii. Describe the trend in volume of credit to the agricultural  
64 sector over the period iii. Describe the trend in agricultural GDP contribution over the period iv.

## 65 2 Research Methodology a) Data Collection

66 Data were collected for the study from secondary sources. Data on the trend of interest rate, aggregate loans to  
67 agricultural sector and Gross domestic products were collected from the Central Bank of Nigeria (CBN) statistical  
68 bulletin 2014 edition

## 69 3 b) Method of Analysis

70 The study made use of descriptive/trend statistics to achieve objectives 1, 2 and 3 and made use of the ordinary  
71 test square regression analysis to achieve objectives 4 while correlation analysis was used to achieve objectives 5

72 The major findings that would be analyzed in this study is to ascertain the effect of interest rate deregulation on  
73 agricultural financing in Nigeria. To analyze these findings interest (lending rate), volume of credit to agricultural  
74 sector and gross domestic product would be used.

75 If the regression coefficient is positive and the calculated t-value is less than the tabulated value, it is an  
76 indication that there is a significant relationship between the dependent and independent variables. The coefficient  
77 of determination (R<sup>2</sup>) was used to measure the rate at which the dependent variables are explained by the  
78 independent variables.

## 79 4 c) Model Specification

80 This study used volume of credit to agricultural sector as the dependent variable while interest rate is used as  
81 independent variable. The model is therefore specified thus: The study also used correlation matrix to describe  
82 the relationship between interest rate and agricultural contribution to GDP (AGDP). Taking a critical look at  
83 figure 1 above, it was observed that the highest interest rate regime occurs in 1993 which was 36.09% as a result  
84 of high demand for loans and inflation which stimulated lenders to seek for compensation for the decrease in  
85 purchasing power of the money they will be repaid in future. was used to achieve this. Interest rate was lowest  
86 in 1977 as there was need to encourage people to invest for economic development.

## 87 5 III.

## 88 6 Result and Discussion

## 89 7 b) Trend in GDP over the Period (1970-2014)

90 Examining the graph above, it is observed that the highest agricultural-GDP contribution was in 1970 which  
91 is about 49% of the economies' GDP. The role of agriculture in the economy has been on the downward trend  
92 especially in the contribution to Gross Domestic Products (GDP). It shares in GDP fell from 48.8% in 1970 to  
93 23.4% in 1974 due to discovery of oil and export of crude which lead to the neglect of the sector. In 1980 due to  
94 Government policies and programs in the sector, there was an increase that continued up to 2014 although this  
95 favourable change has not been steady.

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## 8 IV.

Trend of the volume of Credit to Agricultural Sector over the Period It is obvious that the volume of credit to the Agricultural sector has been increasing over time, as shown in the graph above as a result of introduction of Agricultural Credit Guarantee Scheme (ACGS) in 1977 by the Central Bank of Nigeria (CBN) to guarantee credit disbursement by commercial banks to the sector. Also in 1994, the CBN increased its default rate payment on credits to the agricultural sector as guaranteed by Agricultural Credit Guarantee Scheme. Relationship between Interest Rate and Volume of Credit to Agricultural sector Using a semi-log (Log-In Model) regression analytical technique and estimating the log-ln model using the Ordinary Least Square (OLS) methodology, the nature of the relationship that exists between the Volume of Credit to the Agricultural sector (VCAS) and interest rate (R) is shown in the table below: The result above shows the impact of interest rate on the volume of credit from the supply aspect. The relationship is significant. At high interest rate, the financial institutions are willing to disburse loans to the farmers as they aim to make profits from disbursement of such loans. A unit change in the level of interest rate will lead to approximately 0.15-unit change in the level of volume of credit to the agricultural sector. The regression coefficient of determination obtained ( $R^2 = 0.59$ ) depicts that 59% of the total variation in volume of credit to agricultural sector is explained by variations in interest rates. The remaining 41 percent unexplained during the period deregulation regime was due to the random variable (u). This however goes to show that the two variables are reasonably related.

The t-value of 7.82 compared with the ttabulated at 5% level of significance and at a degree of freedom of 44, shows that interest rate is significant in determining the level of credit volume to the Agricultural sector in Nigeria. Therefore, we accept the null hypothesis  $H_0$ ; and reject the alternative ( $H_A$ ). On the other hand, an increase in interest rate will result in low demand for credit by farmers, while a decrease in interest rate will encourage farmers to access loans. The implication of high interest rate will result to low profitability and productivity of farms and agro-business, discourage investment and decrease farmland values. This will also affect business and the level of investments in the agricultural sector which involves spending on land, buildings, machinery equipment. However, the following are the downsides of a high interest rate on the economy as it trickles down from the agricultural sector. Various economic changes, such as change in the prospects for long term economic growth and inflation, Flexible Changes in federal government policy, and Crisis in the international financial markets.

## 9 VI. Conclusion and Recommendation

The study was conducted to determine the effects of interest rate deregulation on agricultural financing in Nigeria. This research was carried out due to the persistent fluctuation in interest rate which makes it difficult for farmers to acquire or apply for agricultural credits and also to know how it has affected the volume of credit to agricultural sector during the periods under review and the agriculture contribution to the gross domestic product in Nigeria. The change in interest rate over the periods under review have a strong influence or effect on the volume of credit to agricultural sector (on the supply side) and a weak effect on agricultural GDP contribution. The findings showed a fluctuation in the rate of interest rate over the years which have resulted in the following; a) Low productivity b) Unemployment in agricultural sector c) Reduction of profitability of farms and agribusiness d) Discourage business investment e) Based on the empirical result of the study, the following policy recommendations are made towards ameliorating the identified problems.

1. Interest rate in the agricultural sector should be kept at a benchmark in order to increase productivity, create employment and encourage business investment in the sector.

## 10 Government programs and policy in agricultural

sector should be sustained from one government to another. 3. The authorities also should put in place the thrust policy that will reduce the rate of inflation in Nigeria. 4. Government should use necessary incentives to lure more foreign direct investments to agricultural sector. 5. Government through the financial institution should implement policies that would enhance availability and accessibility to credit in the sector. 6. Agricultural projects meant to boost productivity failed due to poor monitoring and evaluation, efforts should be made to properly supervise these projects.

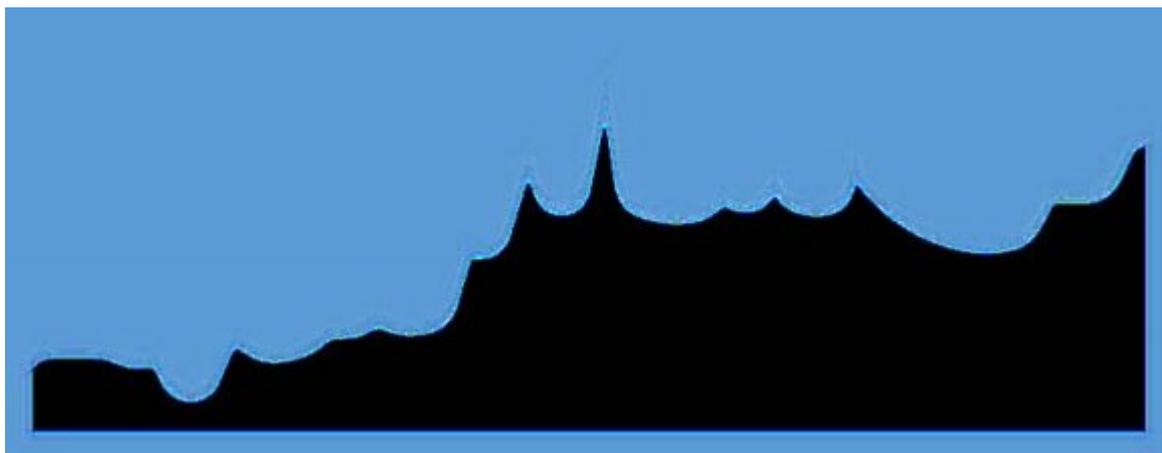


Figure 1:



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Figure 2: Figure 1 :



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Figure 3: Figure 2 :

[Note: a) Research Hypothesis. Interest rate deregulation has no effect on volume of credit to the agricultural sector. ii. Interest rate deregulation has no effect on agricultural GDP contribution.II.]

Figure 4:

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Year	Interest Rate
1970	8
1971	10
1972	10
1973	10
1974	10
1975	9
1976	10
1977	6
1978	11
1979	11
1980	9.5
1981	10
1982	11.75
1983	11.5
1984	13
1985	11.75

*[Note: a) Trend in Interest Rate over the Period (1970-2014) Source: Central Bank of Nigeria (CBN) Statistical Bulletin 2014 Source: Central Bank of Nigeria (CBN) Statistical Bulletin 2014]*

Figure 5: Table 1 :

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Figure 6: Table 2

3

Year	Volume Of Credit To Agric. Sector (Log)
1970	0.85
1971	0.97
1972	1.28
1973	1.33
1974	1.43
1975	1.57
1976	1.90
1977	2.14
1978	2.36
1979	2.52
1980	2.66
1981	2.77
1982	2.90
1983	2.97
1984	3.02
1985	3.12
1986	3.26

Figure 7: Table 3 :

4

1.1: Ordinary least square result of the log-in

Variables	Coefficient	SE	t- Stat	P value
Intercept	-0.9294106	0.3855722	2.41	0.000
Interest rate (R)	0.1524634	0.0195017	7.82	0.020

R 2 = 58.7% , Adusted R 2 = 57.7% Prob > F = 0.000

Figure 8: Table 4 .

144 .1 Source: Central Bank of Nigeria (CBN) Statistical Bulletin 2014.

145 It is important to note that there was a micro increase in 1975 (27.34%) compare to 23.4% in 1974 and it was  
146 as a result of the establishment of National Accelerated Food Production Project (NAFPP) in 1973 which aim  
147 was to boost food production of six major crop namely rice, millet sorghum, maize, wheat and cassava. But  
148 due to sustainability problem the project was bedevilled by inadequate commitment by some states, inadequate  
149 publicity and poor infrastructural facilities which lead to a drastic decline from 1976 to 1980.

150 .2 AGRICULTURAL CONTRIBUTION TO GDP (%)

151 [ Source: Central Bank of Nigeria (CBN) Statistical Bulletin ()] , *Source: Central Bank of Nigeria (CBN)*  
152 *Statistical Bulletin* 2014.

153 [ CBN Statistical Bulletin (2014)] , [http://www.cenbank.org/Out/Publications/Statbulletin/RD/](http://www.cenbank.org/Out/Publications/Statbulletin/RD/2008/STABULL-2006)  
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