

Factors Influencing the Supply of Agricultural Credit by Commercial Banks in Nigeria (1970 – 1993)

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Abstract

The main objective of this paper is to determine those factors influencing agricultural lending by commercial banks in Nigeria. Secondary data sourced from Central Bank of Nigeria's Publications spanning 1970 to 1993 were used. Ordinary Least Square regression analysis was used to estimate the agricultural credit supply function for commercial banks.

The results obtained reveal that nominal interest rate on agricultural loans, minimum rediscount rate and liquidity ratio of commercial banks were the major factors influencing agricultural lending of commercial banks in Nigeria.

Introduction

Inadequate financial capital has been one of the major constraints of agricultural production in many developing countries. Farm families in these countries are characterised by low per capita incomes. Despite the development of profitable new technologies by research and the demonstration of their feasibility by extension, widespread use may still be hampered because the numerous small farmers lack funds to purchase the inputs required to adopt the new technology. Because their personal savings are so limited, farmers commonly borrow to finance their production and often, their consumption expenditures (Osuntogun and Oludimu, 1982).

In order to solve this problem of inadequate supply of production credit to the agricultural sector, the government instituted some policy measures such as the sectoral prescription for Agricultural Loans, Agricultural Credit Guarantee Scheme Fund (ACGSF), and the Rural Banking Scheme. The overall objective of all these policy measures is to increase the flow of credit supply by commercial banks to the agricultural sector.

Despite all these policy measures put in place the overall performance of the commercial banks in agricultural lending has been found to fall below the minimum target set by the Central Bank of Nigeria (CBN). For instance, between 1972 and 1986, commercial banks' loans and advances to the private sector totalled N94.34 billion while the agricultural sector's share of this amounted to N7.85 billion (or 8.3 per cent of the total). During the period the annual agriculture share target set by the CBN under its guidelines was achieved only in 1979. In the rest of the years, there were shortfalls, ranging from a low value of 0.9 per cent in 1972 and 1984 to a high value of 3.5 percent in 1975. On the average, there was a shortfall of 1.4 percent annually from the prescribed levels (Okorie, 1988).

In microstudy carried out by Idowu (1990) in some areas of present Oyo and Osun states, he found that only about 38% of total loans demanded by the Agricultural sector were supplied by the institutional sources (i.e. commercial banks, merchant banks, NACB and Co-operative societies). The non-institutional sources were able to supply another 0.6% to the agricultural sector within the area of study. This situation is not expected to be much different for most of the southern states with similar characteristics.

Several reasons have been adduced for the non-optimal performance of the commercial banks in implementing prescribed sectoral loan allocations which include profit maximization objective; concensionary interest rate structure; high cost of credit administration to numerous small-holder farms; inadequate spread of bank branches; and lack of enforcement of prescribed penalties against defaulting banks (Isijola, 1992). Therefore, policy makers are disturbed by the gap existing between credit requirements and the quantity actually delivered to the agricultural sector through the commercial banks.

Arguments now abound (Nwajiuba, 1989) that because of the under developed nature of the Nigerian financial system, government programmes/policies (Such as Agricultural Credit Guarantee Scheme Fund (ACGSF), Sectoral prescription for Agricultural Loans and Rural Banking Scheme) are more important than the traditional economic variables (such as Interest Rate, Minimum Rediscount Rate and Liquidity Ratio) in agricultural credit supply equation of commercial banks. It is generally believed that a number of factors (such as Credit Guidelines, Liquidity Ratio, and Interest Rate) influence commercial banks in deciding what amount of loans and advances is allocated to the agricultural sector (Mordi, 1986).

This study seeks to investigate the issue and to provide information some of the determinants of the flow of commercial banks' credit to agricultural sector. Thus, the objectives of this study are:

1. to describe the structure of commercial banks lending to the agricultural sector and
2. to determine those factors influencing commercial banks lending to the agricultural sector.

Trend in Commercial Bank Loans and Advances to Agricultural (1970 – 1993)

Table 1 shows that the total commercial bank loans to all sectors of the economy between 1970 and 1993 was N316.010 billion with agriculture accounting for N43.801 billion or 13.9% of the economy's total. This was a period of commercial banks growth and expansion in Nigeria. The number of commercial banks increased from 14 in 1970 to 66 in 1993. Also commercial bank branches in Nigeria increased from 273 in 1970 to 2,352 in 1993 (Table 2).

Table 1: Analysis of Loans and Advances to Agricultural Sector by Commercial Banks, (1970 – 1993)

Year	Loan to Agric. Sector (N'm)	Growth Rate (%)	% of Total Loan (%)	CBN Prescribed Rate (%)	Compliance Rate (%)	Deviation	Total Loans to all sector (N'm)
1970	7.0	—	2.0	2.7	74.1	-0.7	351.5
1971	9.0	32.8	1.9	1.5	78.0	-0.6	502.0
1972	19.2	108.4	3.1	4.0	77.5	-0.9	619.5
1973	21.6	12.5	2.8	4.0	70.0	-1.2	753.5
1974	27.2	22.9	2.9	4.0	72.5	-1.1	938.1
1975	37.4	37.1	2.4	6.0	60.0	-3.6	1,437.5
1976	79.6	113.4	3.7	6.0	61.7	-2.3	2,123.0
1977	139.1	75.3	4.5	6.0	75.0	-1.5	4,313.5
1978	229.0	60.4	5.5	6.0	91.7	-0.5	4,114.9
1979	329.6	47.1	7.1	6.0	118.8	+1.1	4,830.4
1980	462.2	40.2	7.3	8.0	91.3	-0.7	6,349.1
1981	590.6	27.8	6.9	8.0	86.3	-1.1	8,582.9
1982	786.6	33.2	7.7	8.0	90.2	-0.3	10,275.3
1983	940.4	20.0	8.5	10.0	85.0	-1.5	11,093.9
1984	1,052.1	11.9	9.2	10.0	92.0	-0.8	11,503.6
1985	1,310.2	24.5	10.8	12.0	90.0	-1.2	12,170.2
1986	1,830.3	39.7	11.7	15.0	78.7	-3.3	15,701.6
1987	2,427.1	32.6	13.8	15.0	92.0	-1.2	17,531.9
1988	3,066.7	26.3	15.7	15.0	104.7	+0.7	19,581.2
1989	3,470.5	13.2	15.8	15.0	105.3	+0.6	22,008.0
1990	4,221.4	21.6	16.2	15.0	108.0	+1.2	26,000.1
1991	5,012.7	18.7	16.0	15.0	106.7	+1.0	31,306.2
1992	6,978.9	39.2	16.6	15.0	110.7	+1.6	42,008.2
1993	10,753.0	54.1	17.3	15.0	115.3	+2.3	62,133.9
Total	43,801.7	—	209.4	—	2133.0	—	316,010.0
Average	1,825.07	—	8.7	9.3	88.9	—	13,167.08

Source: Derived from Statistical Bulletin (Various issues)

Table 2: Number of Commercial Banks Branches in Nigeria (1970 – 1993)

Year	Number of Banks	Urban Branches	Rural Branches	Total Bank Branches (2) + (3)
1970	14	n.a	n.a	273
1971	16	n.a	n.a	318
1972	16	n.a	n.a	367
1973	16	n.a	n.a	385
1974	17	n.a	n.a	403
1975	17	n.a	n.a	436
1976	18	n.a	n.a	463
1977	19	474	13	487
1978	19	511	98	609
1979	20	533	133	666
1980	20	565	168	733
1981	20	622	240	862
1982	22	676	308	984
1983	25	694	407	1,101
1984	27	810	432	1,242
1985	28	839	451	1,290
1986	29	879	481	1,360
1987	34	947	529	1,476
1988	42	1,057	602	1,659
1989	47	1,093	756	1,849
1990	58	1,169	765	1,934
1991	65	1,253	765	2,018
1992	65	1,495	774	2,269
1993	66	1,577	775	2,352

*Classification of branches into urban and rural started in July 1977

Source: Statistical Bulletin (Various issues).

Analysis of loans and advances made by commercial banks to the agricultural sector of the economy between 1970 and 1993 (Table 1) shows that there was consistent increase in the nominal amount of loans and advances supplied to the agricultural sector. But in relation to the total amount of loans and advances supplied to all sectors of the economy, allocation to agriculture averaged about 5.4% during the Pre-SAP period (1970–1985). The average during the SAP period was however found to be 15.4%.

Despite these increases, agriculture's share of total loans and advances prior to the introduction of Structural Adjustment Programme (SAP) fell short of target when compared with minimum allocation to agricultural

sector for all years except in 1979. Since the introduction of SAP in 1986 the pattern has changed except during the first two years of SAP (i.e. 1986 and 1987) when agricultural sector share when compared with minimum allocation fell short by -3.3 and -1.2 respectively. However, since 1988 the prescribed minimum allocation to agricultural sector had been exceeded by figures ranging from 0.7 in 1988 to 2.3 in 1993. Also, in the Pre-SAP era i.e. between 1970 and 1985 average performance rate of 85% was recorded while during the SAP period i.e. between 1986 and 1993 the average performance rate was 102.7%.

The continuous increase in the nominal aggregate value of loans and advances to agriculture has been attributed to a number of reasons. These include general increases in national earnings from the petroleum sector, CBN credit guidelines coupled with other government measures which compelled investors to channel funds to agriculture. In addition, stipulated penalties for defaulters and other government measures induced investors to channel funds to the agricultural sector. Fundamentally, the characteristic pattern exhibited after the introduction of SAP can be attributed to the policy measures adopted under the programme such as

- i. downward revision of the ceiling imposed on the rate of credit expansion by the commercial banks;
- ii. licensing of more commercial banks, and
- iii. liberalization of interest rate in support of deregulation of the economy under SAP.

Literature Review

There is little or no consensus on the most appropriate strategy for securing and sustaining increased farm output and productivity in an underdeveloped agriculture. This has led to the introduction of many measures aimed at improving agriculture in Nigeria. There is, however, a consensus on the fact that whatever is the programme or technological innovation introduced to improve agriculture, its adoption will, to a large extent, be dependent on farmers' ability to finance the innovation.

Osuntogun (1973) and Miller (1975) have shown that of the two capital markets (the institutional and non-institutional) available to the rural farmers the informal source is the more prevalent supplier of credit in Nigeria. Yet this source has not supplied the amount of credit needed nor has it provided credit on the terms required by farmers to modernise their farming method. Osuntogun (1973) holds the view that unless production credit is made available on suitable terms, the majority of small farmers will be seriously handicapped in adopting profitable technology.

It is this observed inadequacy in credit supply to the agricultural sector by the informal sources that led to the expectation that commercial banks should play more active role as regards provision of credit to agricultural sector. These commercial banks have been identified as the main vehicle for monetary policy implementation in Nigeria. The role of commercial banks in agricultural development in Nigeria is primarily that of extension of credit. They have been identified as the major financial intermediaries because 80.2% of total assets and 85.3% of the deposit liabilities of the financial institutions are managed by the commercial banks (CBN, 1993).

Prior to the work of Melitz and Pardue (1973) major empirical attempts at investigating those factors influencing the demand for and supply of commercial banks' loans and advances, mainly involved large scale econometric modelling of the entire economy. These models according to Melitz and Pardue failed to yield satisfactory results as far as commercial bank loans were concerned. Thus, one could claim that the work of Melitz and Pardue marked the starting point of serious interest in the behaviour of loan beneficiaries and suppliers of credit.

The work of Melitz and Pardue turned – out to be significant in several respects. First, it recognised that the demand for and supply of bank loans could best be tackled from a simultaneous equation system. Secondly, the authors contended that their demand equation was derived from the general theory, starting at the micro-economic level. Finally, having established the micro-economic foundation of their equation, generalisation to the entire economy merely reduced to aggregation over all the individual units.

Melitz and Pardue (1973) in their work claimed that theoretically there are four factors determining the supply of commercial bank loans. These are:

1. a scale constraint;
2. the yield on commercial bank loans;
3. the yield on alternative commercial banks earning assets; and
4. the cost per dollar of bank deposit liabilities.

In another empirical work conducted by Ojo (1978) on the Nigeria Commercial Bank Loans, he acknowledged the underdeveloped nature of the Nigerian financial system and thus the Central Bank is constrained by the use of open market operations to control bank credit. Because of this, there is the need to employ non-market mechanism such as liquidity ratio which influence directly the liquidity of the banking system and as such determine the capacity of the banking system to extend credit.

Mordi (1986) writing on specification and estimation of demand and supply functions of commercial banks loans and advances in Nigeria concluded that, the factors which are conventionally considered to be

relevant in the demand and supply functions of commercial banks' loans and advances turned out to be empirically unimportant. However, this is in contrast to results obtained by Ayichi (1987) and Nwajiuba (1989) from similar empirical studies.

Methodology

Sources and Relevance of Data

Data for this study were obtained from official publications of the CBN which include the Annual Report and Statement of Accounts and Statistical Bulletin. The data collected from CBN Annual Reports and Statement of Accounts include Prescribed minimum rediscount rate of commercial banks, prescribed percentage of credit allocation to agriculture, ratio of interest rate charged on loans for agricultural production to that on commerce, index of agricultural production and index of industrial production. Similarly, data on total commercial banks loans and advances to agricultural sectors, nominal interest rate on agricultural production loans, liquidity ratio of commercial banks, number of commercial banks' branches and interest rate on savings deposit were obtained from CBN Statistical Bulletin. The Ordinary Least Square regression analysis was used to estimate the agricultural credit supply function for commercial banks. Efforts were made to include those variable that represent significant changes in financial system resulting from policy changes such as SAP. These include interest rate deregulation on loans advances and saving deposits.

The dependent variable i.e. Y_t is annual aggregate loans and advances supplied to the agricultural sector by the commercial banks. It is assumed to be equal to annual aggregate credit supplied to the agricultural sector.

The variable X_{1t} is the nominal interest rate on agricultural production loans and advances. This is chosen to represent a host of multiple interest rates charged on different kinds of lending to agriculture. It is a measure of return to the commercial banks and a cost to the agricultural sector. The parameter b_1 for the variable X_{1t} is expected to have a positive sign. This is based on the assumption that commercial banks are profit maximisers and therefore would rationally increase lending with increasing returns. Significant changes occur in this variable before and after the introduction of SAP.

The variable X_{2t} is the minimum rediscount rate prescribed annually by the CBN. This represents the rate at which commercial banks can borrow from the CBN. When the commercial banks are in liquidity problem one of the options for them is to borrow from the Central Bank. The minimum rediscount rate also represents part of the cost of credit to the commercial banks. The parameter b_2 for the variable X_{2t} is expected

to have a negative sign. This is based on the expectation that the higher the rate the commercial banks can borrow from the CBN the lesser the amount that the commercial banks will be willing to borrow from the CBN. Thus, there will be a decline in the total liability of the commercial banks which will in turn decrease the volume of credit that will be available to the agricultural sector.

The variable X_{3t} is the commercial banks liquidity ratio. This represents the percentage of the banks total deposit liability kept apart from meeting the needs of the customers. The parameter b_3 for variable X_{3t} is expected to have a negative sign. This is based on the assumption that an increase in the liquidity ratio of commercial banks increases the proportion of total deposits not available for lending. This curtails the monetary expansion capability of the commercial banks.

The variable X_{4t} is the prescribed sectoral allocation of credit to agriculture. It is the minimum fraction of total commercial banks' loans and advances expected to be supplied to the agricultural sector. The parameter b_4 for the variable X_{4t} is expected to be positive. This is based on the expectation that with higher percentages of commercial banks' loan portfolio prescribed for allocation to the agricultural sector by the central bank, an increase will result in amount of credit supplied to agricultural sector.

The variable X_{5t} is the number of branches of commercial banks in each of the studied years. The parameter b_5 for variable X_{5t} is expected to have a positive sign. This is based on the assumption that since agricultural activities in Nigeria is rural based, establishment of rural branches will increase interaction of agriculture and banks.

The variable X_{6t} is the ratio of nominal interest rate for agricultural production to that for commerce. It is derived by dividing the interest rate on agricultural production loans by the interest rate for commerce. The parameter b_6 for variable X_{6t} is expected to have a positive sign. This is based on the assumption that since the commercial sector offers the highest nominal interest rate, lending to the sector represents the highest "opportunity cost" of lending to agriculture. Higher returns for lending to agriculture, relative to commerce is reflected in higher values for X_{6t} . Hence, the positive sign for b_6 .

The variable X_{7t} is the interest rate on savings deposit. It represents the cost per naira of bank deposits. The parameter b_7 for the variable X_{7t} is expected to have a positive sign. This is based on the assumption that the higher the interest rate payable by commercial banks on savings deposit the higher the amount that will be available to commercial banks for lending. This is because the customers will be more willing to save and this implies more credit to the agricultural sector. This variable also changes significantly after the introduction of SAP.

The variable X_{8t} is the index of agricultural production. It is defined as annual percentage change in agricultural production relative to a base period. It is chosen as a proxy for the level of activity in the agricultural sector and significant changes were observed for the pre-SAP and SAP period. Activity in the agricultural sector informs subsequent government policy measures in the following year. This suggests a lag in the response of commercial banks to supply loans and advances to agricultural sector to the activity in the agricultural sector. The variable X_{8t} is therefore lagged for one year. This is denoted by X_{8t-1} . The parameter b_8 for the variable X_{8t-1} is expected to have a positive sign. This is based on the assumption that commercial banks are responsive to the level of activities in the economy.

The variable X_{9t} is the index of industrial production. This is defined as annual percentage change in industrial production relative to a base year. It is chosen as a proxy for the level of activity in the industrial sector. This sector is an active competitor for commercial banks' loan supply being classified also with agricultural sector as a preferred sector. This variable is also lagged for one year. This is denoted as X_{9t-1} . The parameter b_9 for the variable X_{9t-1} is expected to have a negative sign.

Model Specification

The lack of certainty in the *a priori* choice of an appropriate functional form necessitates the specification of several functional forms. In estimating the agricultural credit supply function of the commercial banks three functional forms are therefore postulated: simple linear, semi-logarithmic and double-logarithmic form as expressed in equations (1), (2) and (3).

Linear Form

$$Y_t = b_0 + b_1X_{1t} + b_2X_{2t} + b_3X_{3t} + b_4X_{4t} + b_5X_{5t} + b_6X_{6t} + b_7X_{7t} + b_8X_{8t-1} + b_9X_{9t-1} + U_1 \quad \dots \dots \dots \text{Equation 1}$$

Semi-Log. Form

$$Y_t = \text{Log } b_0 + b_1 \text{Log } X_{1t} + b_2 \text{Log } X_{2t} + b_3 \text{Log } X_{3t} + b_4 \text{Log } X_{4t} + b_5 \text{Log } X_{5t} + b_6 \text{Log } X_{6t} + b_7 \text{Log } X_{7t} + b_8 \text{Log } X_{8t-1} + b_9 \text{Log } X_{9t-1} + U_2 \quad \dots \dots \dots \text{Equation 2}$$

Double-Log. Form

$$\text{Log } Y_t = \text{Log } b_0 + b_1 \text{Log } X_{1t} + b_2 \text{Log } X_{2t} + b_3 \text{Log } X_{3t} + b_4 \text{Log } X_{4t} + b_5 \text{Log } X_{5t} + b_6 \text{Log } X_{6t} + b_7 \text{Log } X_{7t} + b_8 \text{Log } X_{8t-1} + b_9 \text{Log } X_{9t-1} + U_3 \quad \dots \dots \dots \text{Equation 3}$$

Where

- Y_t = total commercial banks loans and advances supplied to the agricultural sector in year t.
 X_{1t} = nominal interest rate on loans for agricultural production (%) in year t.
 X_{2t} = prescribed minimum rediscount rate (%) in year t
 X_{3t} = **liquidity ratio of commercial banks (%) in year t**
 X_{4t} = prescribed percentage of credit allocation to agriculture (%) in year t.
 X_{5t} = number of commercial banks branches in existence in year t.
 X_{6t} = ratio of interest rate charged on loans for agricultural production to that on commerce in year t
 X_{7t} = interest rate on savings deposit (%) in year t
 X_{8t-1} = index of agricultural production (%) in year t – 1
 X_{9t-1} = index of industrial production (%) in year t – 1
 b 's = constants
 U_1, U_2 and U_3 = Error or disturbance terms which are assumed to possess all the ordinary least squares properties.
 t = time period ($t = 1, 2, 3, \dots, 24$).

Regression Analysis

The result of the multiple regression analysis of the factors influencing the supply of agricultural credit by commercial banks is presented in Tables 3 and 4.

Table 3 reveals the presence of high multicollinearity among some of the explanatory variables. The rule of thumb was then applied. The multicollinearity between a pair of explanatory variable was considered serious if the correlation coefficient between them was greater than 0.8. Some of the variables having correlation coefficients greater than 0.8 were dropped leaving the more important ones.

A new model was then specified thus:

$$Y_t = (fX_{1t}, X_{2t}, X_{3t} + U_t) \quad \dots \dots \dots \text{Equation 4}$$

The variables are as defined earlier. The new model was estimated using the data collected for the study. The result is presented in Table 4.

In order to determine the reliability of the results obtained the usual practice is to ascertain whether the estimate of the parameters are theoretically meaningful and statistically significant. For the purpose of evaluating parameter estimates the usual economic, statistical and econometric criteria were used.

On the basis of these criteria the Linear and Double – logarithmic equations (Table 4) were deleted from further discussion. The semi-

Table 2: Correlation Matrix (I) of Factors Influencing Agricultural Credit Supply of Commercial Banks

	Y _t	X _{1t}	X _{2t}	X _{3t}	X _{4t}	X _{5t}	X _{6t}	X _{7t}	X _{8t-1}	X _{9t-1}
Y _t	1.000									
X _{1t}	0.999	1.000								
X _{2t}	0.253	0.238	1.000							
X _{3t}	0.65	0.080	0.001	1.000						
X _{4t}	0.998	0.998	0.209	0.058	1.000					
X _{5t}	-0.227	-0.245	0.845	-0.154	-0.269	1.000				
X _{6t}	0.996	0.997	0.170	0.067	0.999	-0.309	1.000			
X _{7t}	0.999	0.999	0.244	0.060	0.999	-0.231	0.996	1.000		
X _{8t-1}	0.996	0.997	0.170	0.071	0.999	-0.310	0.999	0.996	1.000	
X _{9t-1}	0.071	0.049	0.691	-0.503	0.043	0.777	0.008	0.071	0.005	1.000

Source: Regression Analysis Result

Table 4: Regression Results of Factors Influencing Supply of Agricultural Credit by Commercial Banks (1970 - 1993)

Type of Equation	Constant	X _{1t}	X _{2t}	X _{3t}	R ²	R ²	F _p	D.W.
1. Linear	-881.019	41.374* (142.070)	41.374* (2.336)	-12.603* (-2.229)	0.999	0.99	72.19	1.31
2. Semi-Log	4201.231	15755.191* (15.766)	-6697.144* (-5.056)	-5749.399* (-2.280)	0.956	0.948	116.93	1.92
3. Double-Log	11.813	1.301* (3.497)	2.225* (4.001)	-3.313* (-3.128)	0.810	0.774	22.74	1.26

*Significant at 5% level of significance.

() Figures in parenthesis are the t - ratios

Source: Regression Analysis Result.

logarithmic form was chosen as the lead equation for analysis and interpretation (Equation 5):

$$Y_t = 4201.231 + 15755.191 X_{1t} - 6697.144 \text{ Log } X_{2t} - 5749.399 \text{ Log } X_{3t}$$

(17.766) (-5.056) (-2.280)

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$$R^2 = 0.956 \quad \bar{R}^2 = 0.948 \quad F = 116.93 \quad D.W. = 1.92$$

The explanatory power of the semi-logarithmic function is about 95% implying that 95% of the variability in the agricultural credit supply of commercial bank is explained by nominal interest rate on agricultural production loan, prescribed minimum rediscount rate and liquidity ratio of commercial banks.

The estimated coefficient of the nominal interest rate on agricultural production loan is positive and significant at 5% level. This is however, consistent with the rational profit maximising behaviour of the commercial banks. This is because the nominal interest rate on agricultural production loan represents the yield on loan supplied to the agricultural sector. Thus, it is expected that a positive relationship will exist between the nominal interest rate on agricultural production loan and volume of loan supplied to the agricultural sector.

The estimated coefficient of minimum rediscount rate prescribed by the CBN is negative and significant at 5% level. Minimum rediscount rate represents cost of borrowing from the CBN. Therefore, it is expected that the higher the cost of borrowing the lesser the amount that the commercial banks will be willing to borrow from the CBN. Thus, there will be a decrease in the total liability of the commercial banks which will in turn decrease the volume of credit that will be available to agricultural sector.

Also, the estimated coefficient of the liquidity ratio of the commercial banks is negative and significant at 5% level. This implies that the liquidity ratio of the commercial bank is negatively related to the volume of credit made available to the agricultural sector by the commercial banks. This is consistent with the assumption that liquidity ratio influences directly the liquidity of the banking system and thus the proportion of total deposits not available for lending. This curtails the monetary expansion capability of the commercial banks.

Conclusion

The results obtained from this study support three major conclusions: First, nominal interest rate on agricultural production loans positively

and significantly influenced the volume of credit supplied by the commercial banks to the agricultural sector; second, the CBN prescribed minimum rediscount rate negatively and significantly influenced the volume of credit made available to agriculture by commercial banks; third, the liquidity ratio of the commercial banks also negatively and significantly influenced the volume of credit made available to agriculture by commercial banks over the studied period.

The implication of these conclusions is that it is doubtful if an indefinite increase in the level of interest rate will continue to result in increased lending to agricultural sector. The inability of the agricultural sector to bear the increased cost of borrowing will constrain the volume of credit supplied by commercial banks to the agricultural sector. A continually increasing interest rate level is likely to fuel inflation in the economy and small holder farmers who dominate the Nigerian agriculture will be incapable of absorbing high cost of credit.

This study had contributed to the debate on whether it is the government programmes or the traditional economic variables that are more important in the determination of the amount of loans supplied by commercial banks to the agricultural sector. It had revealed that it is the economic variable (nominal interest rates, minimum rediscount rate and liquidity ratio) rather than government programmes (Agricultural credit Guarantee Scheme and Rural Banking Scheme) that can significantly influence the supply of agricultural credit by commercial banks.

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