

Government Agricultural Credit Policy and Macroeconomic Fundamentals: a case study of Agricultural Credit Guarantee Scheme Fund (ACGSF) in Nigeria

Sunday B. Akpan^{1*} Obot D. Akpan² Ubon A. Essien³

¹Department of Agricultural Economics, Michael Okpara University of Agriculture, Umudike. P.M.B. 7267, Umuhia,
Abia State Nigeria.

²Department of Agricultural Economics and Extension, University of Uyo, Nigeria

³Department of Agricultural Economics, University of Nigeria Nsukka, Nigeria

*Corresponding author E-mail: sundayakpan10@yahoo.com

Abstract

The study established the relationship between amount of loan guaranteed by the Agricultural Credit Guarantee Scheme Fund (ACGSF) and some key macroeconomic variables in Nigeria. Augmented Dickey-Fuller unit root test and improved ADF-GLS unit root test conducted on the specified time series showed that all series were integrated of order one. The short-run and long-run elasticities of amount of loan guaranteed by ACGSF with respect to some key macro-economic fundamentals were determined using the techniques of co-integration and error correction models. The empirical results revealed that in the long run, the coefficients of interest rate charged by commercial banks and value of oil revenue has a significant negative and positive relationship respectively with the amount of loan guaranteed by the ACGSF in the country. Whereas in the short run, the coefficients of the previous amount of loan guaranteed and value of oil revenue as well as the real GDP has a positive association with the current amount of loan guaranteed by ACGSF while the external debt has a negative association. The results were further substantiated by the variance decomposition and impulse response analysis of the dependent variable with respect to changes in the explanatory variables. The findings call for appropriate short and long term economic policy packages that should focused on the stabilization of the identified significant macroeconomic shifters of amount of loan guaranteed by ACGSF in the country. Special attention should be given to the interest charged on agricultural loan by participating banks. Also, diversification of the country's economy and drastic reduction in external debt would boost the operation of ACGSF in the country and enhances credit availability to Nigerian farmers.

Keywords: Credit, policy, macroeconomic, external debt, interest rate, ACGSF, Nigeria

1.0 Introduction

In Nigeria, credit is recognized as an essential tool for promoting agricultural production especially among rural poor farmers that constitute a bulk percentage of the farming population (Nwankwo, 1983; Nwaru, 2004; Olaitan, 1997; Mejeha and Ifenkwe, 2007; Nwaru, 2011 and Bolarinwa and Fakoya, 2011). The federal government of Nigeria in the past had initiated various agricultural credit related policies and programmes in attempt to improve the agricultural production through provision of cheap financial resources to farmers at a concessionary interest rate. In furtherance of the government interest in agricultural growth, multifarious Policy instruments were enunciated to ensure the realization of the credit policy of the federal government. Some of the instruments implemented by the Federal Government include a commercial bill financing scheme in 1962; the regional commodity boards (later called National Commodity Boards) in 1977; and the export Financing and Rediscount Facility established in 1987. Others include: The Nigerian Agricultural Co-operative and Rural Development Bank (NACRDB) established in 1972; development of technical support and agro service establishments that would facilitate the supply of Credit to farmers throughout the country was established between 1976 and 1980 and a rural banking policy which compelled commercial banks to open specific number of branches in rural areas was implemented in the 1980s and early 1990s. The Community Banks were also introduced into the financial landscape in 1990 to provide banking and financial services for the rural economies and micro-enterprises in the urban centers. In 1996, the Central Bank of Nigeria issued guidelines on sectoral allocation of credit at concessionary interest rates to agriculture among others (Olaitan, 1997 and Manyong *et al*, 2003). All these credit related policies and programmes were meant to stimulate agricultural production through efficient distribution of credit facilities to farmers in the country. However, the continual failure of the aforementioned policy instruments and conventional Banks to satisfactorily provide sufficient credit to finance agricultural activities in the country justifies the need to establish a financial institution to promote credit supply by the formal financial institutions so as to meet the credit need of farmers in the country. Also, the unpredictable and risky nature of agricultural production, the importance of agriculture to our national economy and the urge to provide additional incentives to further enhance the development of agriculture in order to ameliorate the problem of food insecurity as well as the increasing demand by lending institutions for appropriate risk aversion measures in agricultural lending further strengthen the need to envisage such financial institution by the federal Government (Mafimisebi *et al*, 2008 and Nwosu *et al*, 2010).

The federal government of Nigeria in 1977 responded to this need through the establishment of the Agricultural Credit Guarantee Scheme Fund (ACGSF) as one of the means to correct for the highlighted deficiencies in agricultural credit disbursement in the country. The scheme started full operation in April 1978 under the management of the Central Bank of Nigeria (CBN), while a board of directors was constituted for the policy making. The setting up of the ACGSF was predicated on the unwillingness of commercial banks to give loans to smallholder farmers for reasons of high default rate on loan repayment. This was compounded by lack of collateral for banks to fall back on in case of default and the high cost of administering low unit value loans to farmers who remained widely scattered. The scheme therefore encourage banks to increase lending to the agricultural sector by providing some form of guarantee against risk inherent in agricultural lending. In case of default, the lending banks was expected to exhaust all legal means of loans recovery, including realization of any security pledged for loans, before the ACGSF pays 75 percent of guaranteed loans in default (Manyong *et al*, 2003). The primary objective of the Scheme was to facilitate the provision of credit to farmers by providing guarantees to participating banks known as

deposit money banks (DMBs) for loans granted to farmers in accordance with the scheme enabling act. The authorized capital of the ACGSF is contributed by the Federal Government (60 percent) and the CBN (40 percent). The scheme covers the production of all crops, fish farming, fish captures, animal husbandry, storage, farm machinery and hire services, an integrated agricultural projects incorporating production and processing, provided the primary production element accounts for no less than 50 percent of the raw materials required by the business. Collaterals were required for lending under the scheme. However, this requirement (collateral) was waived for farmers borrowing from ₦20 000 and below. Loans under the scheme were at concessionary interest rates until 1987. Following the adoption of the Structural Adjustment Programme (SAP) in 1986 and the subsequent deregulation of lending interest rates in 1987, farmers like other borrowers were mandated to borrow at going market interest rates (Ayadi *et al*, 2008).

ACGSF in Nigeria stood out as one of the most proficient government credit policy instrument that have impacted on the lives of rural farming population in the country ((Mafimisebi *et al*, 2008, Nwosu *et al.*, 2010 and Efobi and Evans, 2011). The scheme has influenced all areas of agriculture and is still on-going. However the achievement of the scheme cannot be without the contribution of some key macroeconomic factors in the country. This is predicted by the fact that the scheme is solely sponsored by the federal government and its agency. As such, fluctuations in some fiscal, financial and monetary policy variables among others will likely affect the level of economic growth in the country and this will have a direct consequent on the statutory allocation to the scheme by the federal government. For instance, in 1993 and 1994, the inflation rates were 57.2% and 73.5% respectively. This progressive deterioration in inflationary trend led to growing uncertainties in investment and growth in the country's economy (CBN, 2011). In the same manner, other macroeconomic variables such as external debt, internal debt, and exchange rate policy as well as oil revenue among others in several periods have affected the economy of Nigeria. It therefore implies that, the buoyancy of the scheme is depending on the level of economic growth in the country which is largely hinged on the stability of some key macroeconomic fundamentals. Therefore, this study specifically established the short and the long run links between amount of loan guaranteed by the ACGSF and some key macroeconomic variables in the country. Such relationship is significant and is a reliable tool needed for the formulation of sustainable credit policy in the country. The result of this study provides an alternative policy area that can be use to intercede credit deficiencies among farmers in the country.

2.0 Research Methodology

2.1 Study Area and Data source: The study was conducted in Nigeria; the country is situated on the Gulf of Guinea in the sub Saharan Africa. Nigeria lies between 4^o and 14^o north of the equator and between longitude 3^o and 15^o east of the Greenwich. Nigeria has a total land area of 923,768. 622km² or about 98.3 million hectares with 853km of coastline along the northern edge of the Gulf of Guinea and a population of over 140 million (NPC, 2006). Secondary data derived from publications of the Central Bank of Nigeria (CBN) and National Bureau of Statistics was used in the analysis. Data covered the period 1978 to 2010.

2.2 Analytical techniques: The empirical models were specified based on the specific objectives of the study as follows;

$$RLoan_t = \delta_0 + \delta_1 LnRGDP_t + \delta_2 LnLendR_t + \delta_3 LnExtD_t + \delta_4 LnExtR_t + \delta_5 LnRoil_t + U_t \dots \dots \dots (1)$$

Where;

RLoan_t = Real amount of loan guaranteed by ACGSF (₦m);

RGDP_t = Real Gross Domestic Product (₦m) as published by CBN in 2011

LendR_t = Lending interest rate of commercial banks (%)

ExtD_t = Real external debt of Nigeria (₦m);

ExtR_t = Real external reserve of Nigeria (₦m)

RoilR_t = Real oil revenue (₦m);

U_t = stochastic error term and U_t ~ IID (0, δ²_U).

Consumer price index (2003 = 100) was used to convert the nominal values to real values.

3.0 RESULTS AND DISCUSSION

3.1 Unit root test

In time series analysis, stationarity of the series is examined by the unit root tests. One of the most commonly used tests in the literature to ascertain the stationarity level of series are ADF test developed by Dickey and Fuller in (1979) and ADF-GLS unit root test developed by Elliott, Rothenberg and Stock in (1996) which is an improvement of the original ADF test. These two tests were used in this study for determining the stationarity level of series. PC-Give 10 and gretl econometric softwares were used to carry out the tests and the result is presented in Table1. The result for both ADF and ADF-GLS unit root tests show that all specified variables were non stationary at levels but stationary at the first difference. The result implies that the time series should be tested for the existence of cointegration among them (Johansen, 1988 and Johansen Juselius, 1990).

Table 1: ADF and ADF-GLS unit root test on variables explained in equation 1

Logged Variables	ADF unit root test						ADF-GLS unit root test					
	With Trend			Without Trend			With Trend			Without Trend		
	level	1st diff.	OT	level	1st diff.	OT	level	1st diff.	OT	level	1st diff.	OT
LnRLoan	-0.65	-5.43**	1(1)	-1.15	-4.93**	1(1)	-0.92	-3.86**	1(1)	-0.29	-2.84**	1(1)
LnRGDP	-3.32	-5.93**	1(1)	-2.74	-5.69**	1(1)	-2.58	-6.05**	1(1)	-0.89	-5.72**	1(1)
LnLendR	-2.17	-8.23**	1(1)	-2.43	-7.88**	1(1)	-2.12	-8.49**	1(1)	-1.59	-7.98**	1(1)
LnExtD	-1.88	-5.70**	1(1)	-2.13	-5.49**	1(1)	-1.85	-5.88**	1(1)	-1.73	-5.55**	1(1)
Ln ExtR	-2.71	-5.82**	1(1)	-1.22	-5.79**	1(1)	-2.68	-5.65**	1(1)	-1.16	-5.24**	1(1)
LnRoil	-2.60	-6.10**	1(1)	-1.52	-6.11**	1(1)	-2.65	-5.74**	1(1)	-1.42	-5.02**	1(1)

1% **	-4.27	-4.28	-3.65	-3.65	-3.77	3.77
5%*	-3.56	-3.56	-2.96	-2.96	-3.19	-3.19

Note: OT means order of integration. Critical value (CV) is defined at 1% (**) and 5% (*) probability levels. Variables are as defined in equations (1).

3.2 Cointegration Test

The concept of cointegration as developed by Granger (1981) involved the determination of the static or long-run associations among non-stationary time series. The pre-condition for applying the standard procedure of the cointegration tests to any series is that the variables in consideration must be integrated of the same order or non-stationary individually. The study applied Johansen cointegration approach to examine cointegration relationship among the specify time series.

Table 2: Results of Johansen Cointegration Test (unrestricted constant)

Rank	Eigen value	Trace Test	P-value	Lmax. Test	P-value
0	0.814	125.59	[0.000]	53.90	[0.000]
1	0.583	71.69	[0.033]	27.98	[0.221]
2	0.418	43.71	[0.116]	17.33	[0.563]
3	0.373	26.38	[0.121]	14.92	[0.307]
4	0.235	11.47	[0.187]	8.55	[0.333]
5	0.087	2.91	[0.090]	2.91	[0.088]

Note: The null hypothesis of no cointegration is rejected at 1% probability level

The result of the Johansen cointegration approach tests for variables in equation 1 is presented in Table 2. The result shows that at 1% probability level of significance, the Johansen cointegration test reject the null hypothesis of no cointegration. The trace and maximum eigenvalue test statistics were significant at various rank levels. The trace test and maximum eigenvalue test statistics are greater than the critical values at 1% probability level. Hence, there exists a long run equilibrium relationship between the amount of credit guaranteed by ACGSF and some major macroeconomic variables in Nigeria. Following his result, a long run equation of loan guaranteed by ACGSF was estimated and presented in Table 3.

Table 3: Long-run equation of real value of loan guaranteed by ACGSF in Nigeria

Variables	Coefficient	Std. error	t-value
<i>Constant</i>	8.033	4.710	1.705*
<i>LnRGDP_t</i>	0.149	0.250	0.596
<i>LnLenR_t</i>	-1.368	0.607	-2.255**
<i>LnExtD_t</i>	-0.028	0.147	-0.192
<i>LnExtR_t</i>	0.223	0.246	-0.907
<i>LnRoil_t</i>	0.816	0.473	1.725*

$R^2 = 0.369$ *Log-likelihood* = -33.97 *Akaike Criterion* = 79.93 *Hannan-Quinn* =82.96
DW- test = 0.408 *F-statistic* = 3.163* *Schwarz Criterion* = 88.92 *RESET test* = 2.63

Note: Asterisks * and ** represent 10% and 5% significance levels respectively. Variables are as defined in equation (1).

3.3 Optimal lag- length for cointegrating variables

The estimation of an Error Correction Model (ECM) requires selection of an appropriate lag length. The following information criteria were used to select appropriate lag length for the cointegrating series: there are Akaike criterion (AIC), Schwarz Bayesian criterion (BIC) and Hannan- Quinn criterion (HQC). The test result as shown in Table 4 indicates that the optimum lag length appropriate for the specified variables is at the second lag indicated by the asterisks in AIC and HQC information criteria. The lag length that minimizes the information criteria is 2. This means that in generating the short run dynamic model for the real amount of loan guaranteed by ACGSF with respect to key macroeconomic variables in Nigeria, the optimum lag length of time series should be kept at 2 in order to obtain a more interpretable parsimonious ECM model.

Table 4: Optimal lag length of variables used in the analysis

Lags	loglike	p(LR)	AIC	BIC	HQC
1	0.028	0.000	0.498	0.831*	0.599
2	1.616	0.075	0.456*	0.837	0.572*
3	1.896	0.454	0.507	0.936	0.638

Note: Asterisk means optimum lag length.

3.4 Error Correction Model for the real amount of loan guaranteed by ACGSF in Nigeria

Following the Granger Representation Theorem, we specified the ECM model for the cointegrating series in the study. The primary reason for estimating the ECM model is to capture the dynamics in the amount of loan guaranteed by ACGSF equation in the short-run and to identify the speed of adjustment as a response to departures

from the long-run equilibrium. The general specification of the ECM that was estimated for the amount of loan guaranteed by ACGSF in Nigeria is shown below:

$$\Delta Loan_t = \delta_0 + \delta_1 \sum_{i=1}^1 \Delta Loan_{t-1} + \delta_2 \sum_{j=1}^1 \Delta X'_{jt-1} + \delta_3 ECM_{t-1} + \epsilon_{1t} \dots \dots \dots (2)$$

The variables X's are as defined previously in equation (1) and the coefficient (δ_3) of the ECM_{t-1} ($-1 < \delta_3 < 0$) measures the deviations from the long-run equilibrium in period (t_1). In order to obtain a parsimonious dynamic ECM for the amount of loan guaranteed by ACGSF, the study adopted Hendry's (1995) approach in which an over parameterized model is initially estimated and then gradually reduced by eliminating insignificant lagged variables until a more interpretable and parsimonious model is obtained. The result of the exercise is presented in Tables 5.

The slope coefficient of the error correction term is negative and statistically significant at 1% probability level. The result validates the existence of a long-run equilibrium relationship among the time series in the loan guaranteed equation, and also indicates that the amount of loan guaranteed by ACGSF is sensitive to the departure from it equilibrium value in the previous periods. The slope coefficient of the error correction term (0.183) represents the speed of adjustment and also is consistent with the hypothesis of convergence towards the long-run equilibrium once the loan guaranteed equation is shocked. The coefficient of ECM_t suggests that in the absence of variation in the specified macroeconomic variables in the short run, that about 18.30 percent of the divergence between actual and equilibrium amount of loan guaranteed by ACGSF is corrected annually in the country.

Table 5: ECM estimates for equation of real value of loan guaranteed by ACGSF in Nigeria (equation 2)

Variables	Coefficient	Robust Std. error	t-value
Constant	-0.026	0.041	-0.639
$\Delta \ln RLoan_{t-1}$	0.485	0.114	4.269***
$\Delta \ln RGDP_t$	0.220	0.047	4.653***
$\Delta \ln LenR_t$	-0.119	0.199	-0.598
$\Delta \ln ExtD_{t-1}$	-0.022	0.010	-2.200**
$\Delta \ln ExtR_{t-2}$	-0.023	0.041	-0.562
$\Delta \ln oilR_t$	0.406	0.077	5.269***
$\Delta \ln ECM_{t-1}$		-0.183	
0.048		-3.817***	

$R^2=0.511$; F -statistic= 3.29**; $Hanna$ - $Quinn$ = 13.71; $Schwarz$ $Criterion$ = 21.35; $Akaike$ $Criterion$ = 10.13; Log - $likelihood$ = 2.93; $RESET$ $test$ = 1.305; DW - $test$ = 2.18; $Normality$ $test$ = 5.722**

Note: Asterisks *, ** and *** represent 10%, 5% and 1% significance levels respectively. Variables are as defined in equation (1).

The diagnostic test for the ECM model revealed R^2 value of 0.511 which means that the specified explanatory time series explained about 51.10% of the adjusted total variations in the value of the real amount of loan guaranteed by ACGSF in Nigeria. The F-statistic of 3.29 is significant at 5% probability level, indicating that the R^2 is significant and this implies that the equation has goodness of fit. The Durbin-Watson value of 2.18 indicates that autocorrelation is not a serious problem.

The real amount of loan guaranteed by ACGSF in the ECM model has a positive inelastic relationship with the previous loan guaranteed by the scheme. This means that in the short run, increase in the previous amount of loan guaranteed by ACGSF would lead to increase in the current amount of loan guaranteed by ACGSF. Also, in the short run, the slope coefficient of real GDP (RGDP) has a significant (at 1% level) positive correlation with the amount of loan guaranteed by ACGSF in Nigeria. The result implies that increase in the real GDP increases the tendency of increase amount of loan guaranteed by ACGSF in the country. The result might be explained by the fact that increase in the real GDP signifies improvement in the general economic environment and thus enhances budgetary allocation among sectors in the economy. However the relationship was statistically insignificant in the long run.

The result also revealed that amount of loan guaranteed by ACGSF has a significant negative elastic association (at 1% probability level) with the lending interest rate of commercial banks in long run. Elastic relationship implies that 1% change in interest rate charged by the commercial banks would result in a less than equivalent 1% change in amount of loan guaranteed by ACGSF. However the negative significant association between the amount of loan guaranteed by ACGSF and interest rate in the long run could be attributed to the deregulation of the interest rate, which allow interest rate to be determine by the forces of demand and supply. Also, in the short run, the real value of external debt (ExtDt) reduces the amount of loan guaranteed by ACGSF. The reason for the result could be attributed to the fact that in the short run, increase in external debt would increase government budget deficit and as consequent revenue allocation to sectors will decrease. In the long run, perhaps due to pre-planned measures the influence is cushion out, and the relationship between the two variables becomes statistically insignificant. Furthermore, the coefficient of oil revenue (oilR_t) exhibited a positive significant impact on the amount of loan guaranteed by the ACGSF in both short and long periods in the country. The result satisfies the a priori expectation. This is due to the fact that Nigeria's economy is oil based dependent.

3.5 Variance decomposition of amount of loan guaranteed by the ACGSF in Nigeria

An examination of the variations in the amount of loan guaranteed by the ACGSF both in the short and long runs is further supplemented by variance decomposition analysis of loan guaranteed by the ACGSF as presented in Table 6.

Table 6: Variance decomposition of Rloan

Period	S.E	RLoan	RGDP	LendR	ExtD	ExtR	OilR
1	0.288	100.00	0.000	0.000	0.000	0.000	0.000
2	0.473	99.268	0.001	0.132	0.002	0.268	0.329
3	0.615	98.371	0.031	0.086	0.119	0.198	1.195

4	0.719	97.961	0.022	0.081	0.181	0.168	1.587
5	0.806	97.589	0.024	0.098	0.238	0.185	1.866
6	0.880	97.396	0.024	0.106	0.266	0.183	2.025
7	0.949	97.307	0.023	0.109	0.280	0.176	2.106
8	1.013	97.254	0.021	0.112	0.288	0.166	2.158
9	1.075	97.212	0.020	0.113	0.295	0.158	2.201
10	1.133	97.176	0.019	0.114	0.301	0.152	2.238

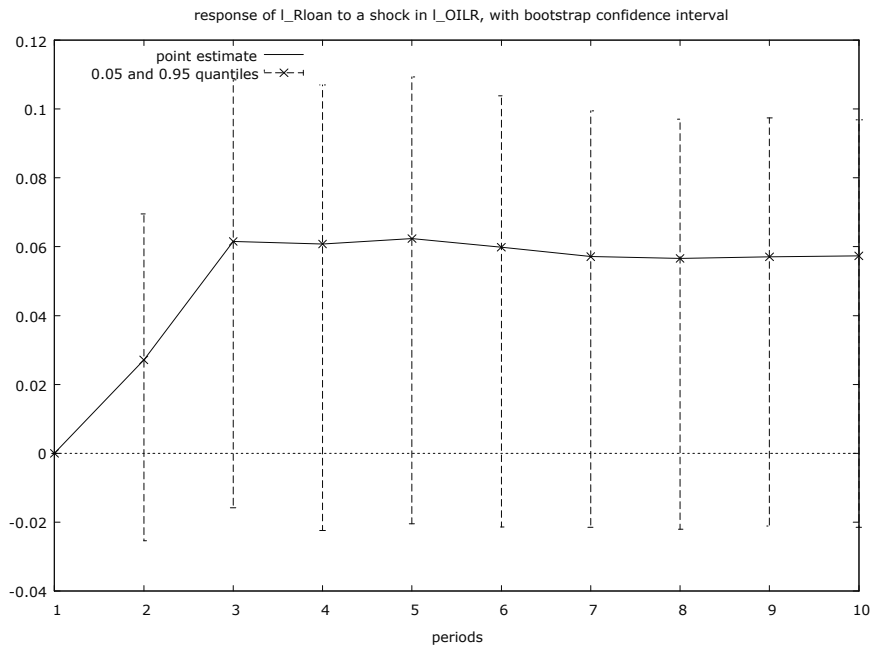
The result in Table 6 reports the percentage of the variance of the t-year ahead forecast that is attributable to each of the shocks in period 1 to 10. From the result, “own shocks” constitute a significant source of variation in ACGSF loan guaranteed in both short and long run forecast variance errors, over the 10 year horizon. The result reveals that oil revenue (OilR), external reserves (ExtR) and interest rate charged by commercial banks (LendR) are significant variance sources in loan guaranteed by ACGSF in the short run in the country. In the long run, oil revenue and external debt are the major contributors to error variance of the real loan guaranteed by the ACGSF. This result corroborates the findings earlier reported in the long and short run model analyses.

The impulse response Analysis

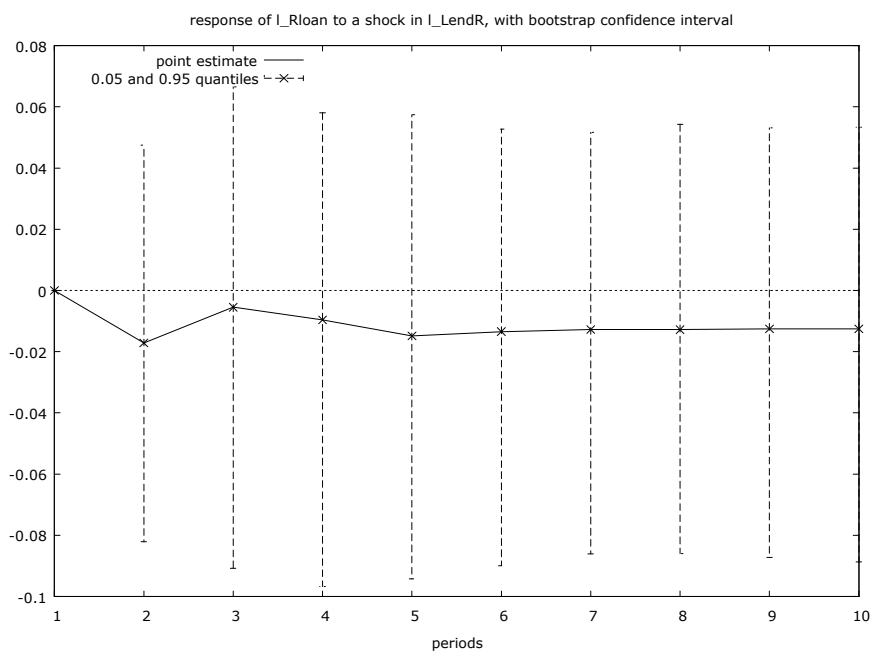
The result of the response analysis of value of loan guaranteed by the ACGSF is presented in Table 7 and Figure 1 to 4. The impulse response analysis depicts the dynamics of dependent variables, tracing out its possible reaction due to shock attributed to explanatory variables at time “t”. In figure 1, the result reveals that a positive shock in the oil revenue affects loan guaranteed by ACGSF positively in both short and long run. However, the response seems to be consistent in the long run.

1.
 Nigeria

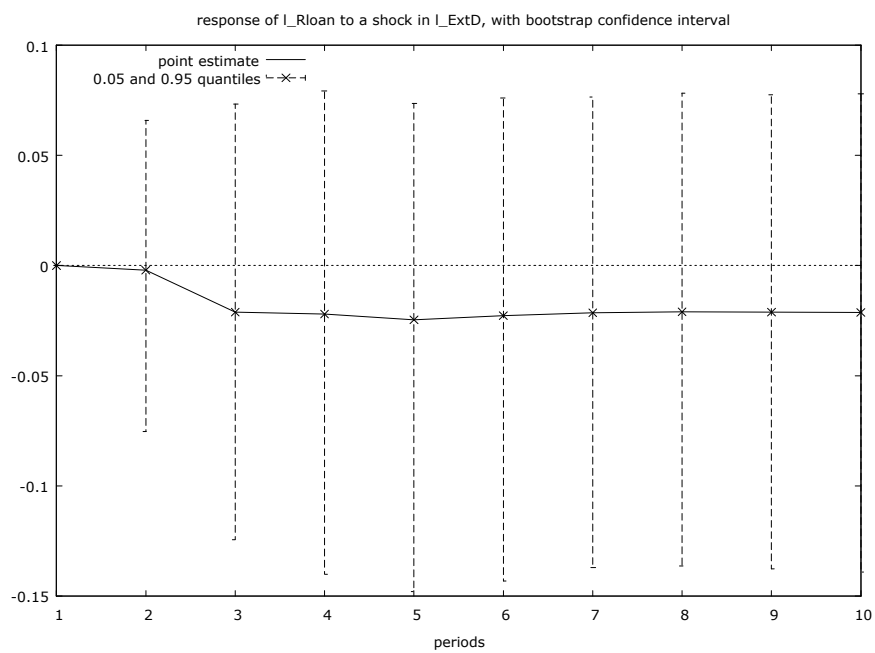
Figure 1: The Response of ACGSF loan to Shock in Oil Revenue in



2. Figure 2: The response of Rloan to shock in LendR in Nigeria



3. Figure 3: The response of Rloan to shock in ExtD in Nigeria



4. Figure 4: The response of Rloan to shock in RGDP in Nigeria

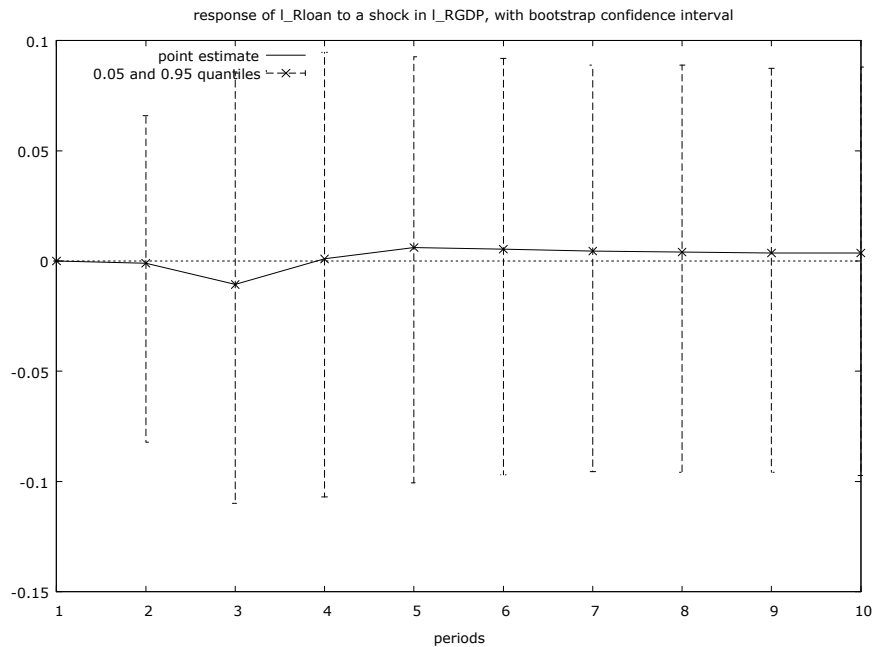


Table 7: Responses to a one-standard error shock in value of real loan guaranteed by ACGSF in Nigeria

Period	RLoan	RGDP	LendR	ExtD	ExtR	OilR
1	0.288	0.062	-0.001	0.185	0.112	0.151
2	0.373	-0.032	-0.027	0.019	0.255	0.110
3	0.388	0.005	0.019	-0.017	0.223	0.138
4	0.367	0.048	0.016	0.053	0.208	0.157
5	0.355	0.071	0.022	0.105	0.159	0.150
6	0.348	0.071	0.024	0.130	0.146	0.147
7	0.348	0.065	0.021	0.127	0.153	0.148
8	0.350	0.060	0.019	0.117	0.158	0.146
9	0.352	0.059	0.019	0.112	0.161	0.146
10	0.352	0.059	0.020	0.111	0.162	0.147

The result revalidates the earlier results reported in this study and agrees with the economic thought given the fact that Nigeria has oil based economy. The response of loan guaranteed by ACGSF to shock (increase) in the lending interest rate of commercial bank is negative in both short and long run periods. The response exhibited undulating trend in the short run and assumes almost a constant trend in the long run. Also the response of loan guaranteed by the ACGSF to changes (increase) in the external debt is negative in all periods. The response took a sluggish downward movement from period 1 to 3 and thereafter assumes almost constant fluctuations. Furthermore, a positive shock in the real GDP surprisingly induce a negative response in the loan guaranteed by ACGSF in the short run but becomes positive in the long run. It is also noticed, that in all periods the shock induced by changes in real GDP has minimal effect on loan guaranteed by ACGSF. Though the response of the loan witnessed a downward fluctuation briefly in periods 2 and 3, but it later assumes a rising trend fluctuating in almost constant pattern till period 10.

4.0 Summary and Recommendations

In this paper, the relationship between amount of loan guaranteed by the ACGSF and some macroeconomic variables in a developing country like Nigeria has been investigated using popular time series methodologies. The data properties was analyzed to determine the stationarity of time series using the popular Augmented Dickey-Fuller unit root test and improved ADF-GLS unit root test which indicates that the series used in the analysis were I(1). The results of the Cointegration test based on the Johansen's procedure indicated the existence of the Cointegration between the amount of credit guaranteed by the scheme and non stationary macroeconomic variables in the country. The ECM error term had the appropriate sign and was statistically significant at 1% probability level indicating a quick convergence to equilibrium in each period, with intermediate adjustments captured by the differenced terms. The findings show that some key macroeconomic fundamentals in Nigeria's economy interact in each period to re-establish the long-run equilibrium in amount of loan guaranteed by the ACGSF following a short-run random disturbance. The empirical result from the estimation of the long run amount of loan guaranteed by ACGSF equation revealed that the interest rate charged by commercial banks and oil revenue have significant negative and positive relationship respectively with the amount of loan guaranteed by ACGSF in the country. Whereas in the short run, the previous amount of loan guaranteed and oil revenue as well as real GDP has a positive association with the current amount of loan guaranteed by ACGSF while the external debt has a negative association with the amount of loan guaranteed by the ACGSF. Further analysis based on the variance decomposition and impulse response analysis revalidates the earlier results and provided more facts on the behavior of loan guaranteed by ACGSF over time. The result reveals that a positive shock in RGDP only produces minimal response in ACGSF loan guaranteed.

The findings call for appropriate short and long term economic policy packages that should focused on the stabilization of the identified significant macroeconomic shifters of the amount of loan guaranteed by ACGSF in the country. Special attention should be given to the interest charged on agricultural loan by participating banks. This is because lower interest rate will reduce the number of defaulters and thereby decreases the amount of loan guaranteed and increase the efficiency of the scheme. Diversification of the country's economy and the drastic reduction in external debt would boost the operation of ACGSF in the country and enhances credit availability to Nigerian farmers. Finally, encouraging all round economy growth in the country would promote ACGSF operation .

REFERENCES

- Ayadi, O. Felix, Esther .O. Adegbite, Funso .S. Ayadi (2008). Structural Adjustment, Financial Sector Development and Economic Prosperity in Nigeria. *International Research Journal of Finance and Economics* ISSN 1450-2887 Issue 15 (2008) © Euro Journals Publishing, Inc. 2008 <http://www.eurojournals.com/finance.htm>
- Bolarinwa, K.K. and E. O. Fakoya (2011). Impact of Farm Credit on Farmers Socio-economic Status in Ogun State, *Nigeria. J. Soc. Sci*, 26(1): 67-71.
- CBN, (2011): Statistical Bulletin of Central Bank of Nigeria. <http://www.cbn.org/out/publications> Central Bank of Nigeria statistical Bulletin, 2011.
- Efobi, U. R. and E. S. Osabuohien (2011). Assessment of the role of agricultural credit guarantee scheme fund in promoting non-oil export in Nigeria. A paper accepted for presentation at the international conference on ‘Economic Development in Africa’ by the centre for the study of African economies (CSAE) at Oxford University, United Kingdom, March 19-21, 2011.
- Elliott, G. T., J. Rothenberg and J. C. Stock (1996). Efficient tests for an autoregressive unit root. *Econometrica* 64: 813-836.
- Granger, C. W. J. (1981). Some properties of time series data and their use in econometric model specification, *Journal of Econometrics*, 16, 121-130.
- Hendry, D. F. (1995). *Dynamic Econometrics*, Oxford: Oxford University Press.
- Johansen, S. and Juselius, k. (1990) “maximum likelihood estimation and inference on cointegration-with applications to the demand for money,” *oxford bulletin of economics and statistics*, vol. 52, no. 2, pp.169-210.
- Johansen, soren. (1988): “statistical analysis of cointegration vectors,” *journal of economic dynamics and control*, vol. 12, no. 2/3, pp. 231-254.
- Mafimisebi T. E., Oguntade, A. E. and Mafimisebi O.E. (2008). A perspective of partial credit guarantee schemes in developing countries: A case study of the Nigerian agricultural credit guarantee scheme funds. A paper delivered at The World Bank conference on Partial Credit Guarantee Schemes held at the World Bank Main Building, Washington, D.C, USA, March 13-15, Pp. 35
- Manyong, V.M., A. Ikpi, J. K. Olayemi, S. A. Yusuf, R. Omonona, and F.S. Idachaba (2003). “Agriculture in Nigeria” Identifying opportunities for increase commercialization and Investment. International Institute of Tropical Agriculture in collaboration with University of Ibadan.

Mejeha, R. O., and Ifenkwe, G. E. (2007). Density and microfinance service coverage of rural banks in Nigeria. *International Journal of Agriculture and Rural Development*, 10(2), 1-6.

National Population Commission (2006), National Census data for Nigeria.

Nwankwo, G. O. (1983). The impact of government policies on the financial system. *Bullion*, 2, 33-36.

Nwaru, J. C. (2004). Rural credit markets and resource use in arable crop production in Imo State of Nigeria. Ph.D. Dissertation, Michael Okpara University of Agriculture, Umudike, Nigeria.

Nwaru, J. C. (2011). Determinants of informal credit demand and supply among food crop farmers in Akwa Ibom state, Nigeria *journal of rural and community development* ISSN: 1712-8277 © journal of rural and community development www.jrcd.ca.

Nwosu, F. O; N.N.O. Oguoma; N. G. Ben-Chendo; A. Henri-Ukoha (2010). The Agricultural Credit Guarantee Scheme: its roles, problems and prospects in Nigeria's quest for agricultural development. *Researcher*, 2(2):87-90.

Olaitan, M. A. (1997). Factors Influencing Repayment Patterns under the ACGS in Ogun State, Nigeria. Unpublished Ph.D Dissertation, University of Ibadan, Ibadan, Nigeria.

Olaitan, M. A. (2006). Finance for Small and Medium Enterprises; the case for Nigeria's Agricultural credit Guarantee Fund. *Journal of International Farm Management* Vol.3. No.2 - January 2006.

This academic article was published by The International Institute for Science, Technology and Education (IISTE). The IISTE is a pioneer in the Open Access Publishing service based in the U.S. and Europe. The aim of the institute is Accelerating Global Knowledge Sharing.

More information about the publisher can be found in the IISTE's homepage:

<http://www.iiste.org>

The IISTE is currently hosting more than 30 peer-reviewed academic journals and collaborating with academic institutions around the world. **Prospective authors of IISTE journals can find the submission instruction on the following page:**

<http://www.iiste.org/Journals/>

The IISTE editorial team promises to review and publish all the qualified submissions in a fast manner. All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Printed version of the journals is also available upon request of readers and authors.

IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

