

## ASSESSMENT OF CREDIT RATIONING STATUS AMONG AGRO DEALERS IN SOUTH WEST, NIGERIA.

**Afelumo, B. E, Akinrinola, O. O, Afolabi, J. A**

*Department of Agriculture and Resource Economics,  
School of Agriculture an Agricultural Technology, Federal University of Technology, Akure  
corresponding author: fissykos@gmail.com*

### **Abstract**

*In the Nigerian Agricultural Transformation Agenda, Agro-dealers are strategically positioned as in-built mechanism through which farmers are to get requisite inputs to improve their production and productivity. However, the distribution network has been hampered by under-capitalization of actors in the distribution chain. Thus, the study seeks to; ascertain the extent to which agro-dealers are credit rationed, identify factors influencing credit rationing scenarios and suggest measures to combat challenges of credit rationing and stimulate demand for credit among agro-dealers. Credit rationing was modelled in the study using three categories of rationing namely, quantity, price and risk rationing. Primary data generated through structured questionnaire from 200 agro-dealers from Agrodealers' Trade Association from Four (4) states namely, Ondo, Ekiti, Osun and Oyo respectively. Seemingly Unrelated Regression model was used for the analysis. Credit rationing in terms of quantity is significantly depended on agro-dealers' income, value of asset, membership of trading association, borrowing status and level of education. Risk rationing is significantly dependent on borrowing status, value of assets and educational attainment, while price rationing is positively influenced by savings, borrowing status, membership of trade association and business experience. Agro-dealer need to strengthen their cooperation and develop their skills in the area of record keeping and maintain robust saving profile so as to enhance their credit rationing.*

**Keywords:** *Agro-dealers, Finance, Revenue and Credit Rationing*

### **Introduction**

Despite efforts by the Nigerian government to transform the agricultural sector in terms of effective distribution of modern inputs that are critical to the attainment of the desired outcomes, such inputs (improved seedlings and agrochemicals) are not readily within the reach of the farmers in the right quantity, quality, and price (Olomola, 2014). Although, the agricultural sector has been recording positive growth rates recently, the input distribution system has been in a parlous state (Afolayan, 1997). The inputs at the disposal of an average farmer remain grossly inadequate and of low quality with sub-optimal productivity capacity (Akudugbu, 2012). The various policies of government to ensure adequate supply of agro-inputs have not been effectively implemented (Amalu, 2008). Before 2011, government has been involved in the procurement and distribution of fertilizer with a subsidy policy which was subjected to review from time to time. (Olomola, 2014). Fertilizer importation and distribution became politically attractive business and only a small proportion of farmers benefited directly from the input procurement and distribution policies (Madukwe, 2008). The need to expand the network of agro input suppliers to ensure timely, adequate and sustainable input supply system led to the development of agro-

dealers (input markets) right from the late 1990's (Olomola, 2013). This involved the identification of marketers already in the business of agricultural input supply and those with potential interest, organisation of necessary training and linking them with sources of finance (IFDC, 2012). Growth Enhancement Scheme (GES) implementers were disappointed that agro-dealers did not deliver adequate inputs to farmers as expected and that some of the delivered inputs reached farmers quite late, contrary to expectation (Olomola, 2014). Agro-dealership is gaining ground in Nigeria's agricultural development, especially within the broad paradigm of the federal government's Agricultural Transformation Agenda (Eboh, 2003). This study therefore, assessed agro dealership financing in South – West, Nigeria. Specifically, it

- (I) ascertained the extent to which agro-dealers are credit rationed,
- (ii) identified factors influencing credit rationing scenarios,
- (iii) suggested measures to combat challenges of credit rationing and stimulate demand for credit among agro-dealers.

### **Theoretical Framework**

Agro-dealership refers to the business operations and related activities of agro-input sellers. They are

operators of small and medium scale enterprises (SMEs), who engage mainly in buying and selling of agricultural inputs such as fertilizer, seeds and chemicals and ensure the delivery of such inputs to farmers, even at the grass root levels (Olomola, 2014). Agro dealership development became entrenched into the Nigerian agricultural sector in the vigorous campaign to redefine the public sector's role in procuring and distribution of agricultural inputs (Fagbamiye, 2007). In many parts of the world, the campaign has led to the evolution of a strong agro-dealer movement that has helped shaped the delivery of requisite inputs, timely and adequately to the farmers in many African countries (Manyong et al., 2005). In Nigeria, the most development project relating to agro-dealership was motivated, designed, and implemented by external agencies to demonstrate the significance of strong agro-dealer communities and inter-linkages within other sectors of the economy (Idachaba, 2000). According to Okurut *et al.*; 2003, credit rationing is defined as the situation whereby lending institutions limit or deny credit based on borrowers creditworthiness and an overload of loan demand. Interest rates trending either up and down stated by Okurut *et al.*; 2003. Credit rationing can also be defined as a situation in which lender refuses to extend credit to a borrower at the price posted by the lender for that borrowers class (Mayong, *et al.*; 2005). It is an example of imperfect market or market failure, as the price mechanism fails to bring about equilibrium in the market (Stiglitz and Weiss, 1981). According to Okurut *et al.*; 2003, credit rationing can be modelled in three categories, they are; Quantity, Price and risk rationing and they are defined as follows:

**Price rationed Applicants** (agro dealers) were those who borrowed and were happy with the amount they were given or received at any interest rate offered.

**Quantity Rationed Applicant** (or agro dealers) may be in form of outright loan refusal or of granting loan amount smaller than requested. It may be also be borrowers' whose in ability to meet collateral requirements of lenders.

**Risk Rationing** arises in situations in which potential borrowers are unwilling to access a loan, even if it were available to them, because of the fear of buying indebted and possibility losing their assets pledged as collateral.

Madukwe (2008), also emphasized that most agro-dealers were small and poorly financed, with half considered mobile "tabletop" dealers with no significant storage capacity. This category of agro-dealers need to be brought into a supply network because they are very important in the value chain and are often farmers' only source of inputs supply (Fatoki and Smith, 2011). The main challenge of the project was the reluctance of commercial banks to participate in the Nigeria Agro-Dealer Support Project (NADSP)-budgeted Credit Guarantee Program (Fatoki and

Smith, 2011). This failure implied that the project was unable to mobilise the required fund as anticipated in order to help agro dealers gain access to the credit they needed to expand their businesses (Usman, 2006). Moreover, the financing from commercial banks to enable agro-dealers perform their roles in the input distribution network was encumbered by operational and administrative bottlenecks and preferential tendencies of the financial institution. The weaknesses in financial and technical capacity of the agro-dealers came to the limelight when many of them could not ordinarily provide the financial backing for their role in the distribution of inputs under the GES scheme (Shen, 2002).

## Methodology

### Study Area

The study area included four (4) States in South West Nigeria which consists of Ekiti, Ondo, Osun and Oyo states. The area lies between longitude 2° 31' and 6° 00' East and latitude 6° 21' and 8° 37' N with a total land area of 77, 771 km<sup>2</sup> (Sanusi and Adedeji 2010). The geo – political zone has a population of 16,645,410 million people based projected value(World Population Prospect, 2019 revision). Certain percentage of the population engaged in Agriculture as their major occupation. The study area is bounded in the East by Edo and Delta States, in the North by Kwara and Kogi states, in the West by the Republic of Benin and in the South by the Gulf of Guinea.

### Sources and Types of Data

Primary data were used for this study. Data collection was carried out using well-structured questionnaire, administered on the agro-dealers in the study area. The survey covered the four States namely Ondo, Osun, Ekiti and Oyo. The questionnaire was designed to elicit information on the agro-dealers marketing activities, demand for credit from various formal sources and their socio-economic characteristics. In specific term, data collected include agro-dealers age, gender, educational status, business income, and business experience, saving profile, value of asset, membership of credit/trade association, credit sources and types of collateral. The questionnaire was structured such that agro-dealers were classified into different groups –those who applied for credit, those whose requests were granted, denied and those who did not apply. Also, qualitative information on reasons behind those who did not apply and denied of credit were generated to aid characterization of rationing and borrowing status of agro-dealers.

### Sampling Technique and Data Collection

Multistage sampling procedure was adopted for this study. The first stage involved the selection of Four states namely Ekiti, Ondo, Oyo and Osun purposively selected based on the prominence of agro-dealers in these states. The second stage is the collection of the list of agro-dealers from Agro-Dealers Trade Association from each state, from Bank of Agriculture (BOA) branch in each state and from Micro Finance Banks

(MFBs) which participated in the on-lending programme of the Commercial Agricultural Credit Scheme (CACs) and Growth Enhancement Scheme (GES). The third stage involved using the random to select the respondents. Forty respondents were selected from Ekiti, Fifty respondents were selected from Ondo, Seventy respondent were selected from Oyo and Forty respondents were randomly selected from Osun state, which resulted into a total sample size of Two hundred (200) respondents. The number of the respondents selected across the states were not uniform, because their numbers outweigh each other based on location. Some location have large population of agrodealers, while some location have sparse population of agrodealers.

**Analytical Techniques**

The analytical techniques that were employed for this study include descriptive statistics such as tables to describe the socio-economic characteristics of respondents, frequency and percentages to describe the extent to which agrodealers were credit rationed in the study area. Seemingly Unrelated Regression (SUR) model was used to analyse the nature and determinant of credit rationing among the agrodealers in the study area.

The Seemingly Unrelated Regression (SUR) model is expressed implicitly as follows:

$$y^* = f(X_1, X_2, X_3, X_4, X_5, \dots, X_n, \epsilon_i)$$

The equation can be written individually as:

$$Y_1 = \beta_1 X_1 + \beta_2 X_2 \dots \beta_n X_n + \epsilon_i$$

Where Y..... .Dependent variable  
 X<sub>1</sub>..... . X<sub>n</sub> are the Explanatory variable  
 β<sub>1</sub>..... β<sub>n</sub> are the slope Coefficient |  
 ε<sub>i</sub> ..... error term

Where :

- Y = credit rationing (measured in Naira value)
- X<sub>1</sub> = Educational background ( number of years spent in school)
- X<sub>2</sub> = Debt ( measured in Naira value)
- X<sub>3</sub> = Savings ( measured in Naira value)
- X<sub>4</sub> = Number of business outlets ( number of shops available)
- X<sub>5</sub> = Sex ( Dummy) ( Male = 0 and Female = 1)
- X<sub>6</sub> = Borrowing status (Dummy) (Borrower = 0, Non-borrower = 1)
- X<sub>7</sub> = Member of Association (Dummy) ( Member = 0, Non - member = 1)
- X<sub>8</sub> = Business experience (number of years spent in the business)
- X<sub>9</sub> = Assets (measured in Naira value)
- X<sub>10</sub> = business income (measured in Naira value per year)

**Results and Discussion**

The result in Table 1 showed that 1.5% of the respondents was 30 years old or less. About 24.5% of the respondents fell within 31 – 40 years of age, while 41% of the respondents fell within 41 – 50 years of age. This showed that the respondents were still in their productive age. The mean age is 47.07 which means the age range fell within the economically active age. The active ones becomes more agile and enterprising. About 74% of the respondents were males, while 26% of the respondents were females in the study area. This implies that the marital status had a great influence on financing agrodealership. Majority of the agrodealers (45.5%) completed secondary education, while 20% only had university education.. This implies that the more educated they are, the more they can under read, write and communicate with their customers very well. Forty seven (47) percent of the respondents had less than 10 years experience, while 43% of the respondents had 10 – 20 years experience. The mean value of experience is 13.39, which is more than 10 years. This implies that the number of years of experience will counting managing the business effectively.

**Table 1: Socio- Economic Characteristics of Agrodealers in the Study Area**

<b>Variables</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Age of Respondents</b>		
≤ 30	3	1.5
31 – 40	49	24.5
41 – 50	82	41.0
51 – 60	54	27.0
61 – 70	11	5.5
> 70	1	0.5
<b>Total</b>	<b>200</b>	<b>100.0</b>
<b>Sex</b>		
Male	148	74.0
Female	52	26.0
<b>Total</b>	<b>200</b>	<b>100.0</b>
<b>Marital Status</b>		
Single	7	3.5
Married	191	95.5
Widowed	2	1.0
<b>Total</b>	<b>200</b>	<b>100.0</b>
<b>Educational Level</b>		
No Formal Education	28	14.0
Primary Education	23	11.5
Secondary Education	91	45.5
Tertiary Education	40	20.0
Others	18	9.0
<b>Total</b>	<b>200</b>	<b>100.0</b>
<b>Year of Experience</b>		
<10	94	47
10 – 20	86	43
21 – 30	18	9
31 – 40	1	0.5
> 40	1	0.5
<b>Total</b>	<b>200</b>	<b>100.0</b>

**Source:** Computed from Field Survey Data, 2019.

**Credit Rationing Status of Agro-dealers**

The disparity in credit rationing status of the agro dealers is examined across formal sources of credit and types of collateral. As indicated in Table 2, all the credit sources– Bank of Agriculture (BOA) and Microfinance Banks (MFBs) practiced all forms of rationing. In BOA, 50 percent of agro-dealers were credit rationed in terms of quantity, 43 per cent were credit rationed in terms of risk, while 7 per cent were credit rationed in terms of price. The implication of this rationing figures is that, the agrodealers may be indebted to the financial institution, if they cannot meet up with the required collateral. Percentage of agro-dealers that were credit rationed in terms risk was low, as some of them cannot afford to loose their collateral.

But in MFBs, credit rationed agro-dealers in terms of risk were the highest (70 per cent), followed by credit rationed agro-dealer in terms of quantity, which represented 24 percent and the remaining 6 per cent represented those that were credit rationed in terms of price. Furthermore, the distribution of agro-dealers based on their credit rationing status varies among agro-dealers with regards to types of collateral. The implication of the BOA rationing is that the institution places high premium on the quality of collateral for loan, thus 50 percent of agro-dealers who applied for loan in BOA were denied based on the uncertainty associated with the quality of collaterals submitted. In the same vein, MFBs ranked the credit worthiness of any agro-dealers based on their ability to pay. This is as a result of high probability of default or otherwise.

**Table 2: Agro-dealers Credit Rationing Status by Credit Source**

Types of Credit Rationing	Sources of Credit			
	Bank of Agriculture		Micro Finance Banks	
	Frequency	Percentage	Frequency	Percentage
Quantity Rationed	60	50	56	70
Risk Rationed	52	43	19	24
Price Rationed	8	7	5	6

**Source:** Computed from Field Survey Data, 2019.

Multiple response

With respect to collateral, it is important to note that access to loan under different agricultural lending programmes does not make provision of collateral as one of the requirements. Hence, where there is no collateral or a suitable substitute, propensity for credit rationing to thrive is high. The agro-dealers were asked to indicate what they would offer, should collateral becomes one of the requirements to credit. Items such as land and building, motor vehicle, and bank deposit were offered as collateral by the agro-dealers.

The distribution of agro-dealers based on their credit rationing status among available collateral is presented

in Table 3. In land and building and no collateral groups, the highest proportion of agro-dealers is credit rationed in terms of quantity, followed by those that were credit rationed in terms of risk and lowest were those who were credit rationed in terms of price. In Motor vehicle group, the proportion of agro-dealers that were credit rationed in terms of quantity were the same as the proportion that were credit rationed in terms of risk. In bank deposit group, the highest proportion were those that were credit rationed in terms of quantity, followed by agrodealers that were credit rationed in terms of risks, because of the fear of not wanting to loose their collateral.

**Table 3: Agro-dealers Credit Rationing Status by Provision of Collateral**

Types of Credit Rationing	Collateral							
	Land & Building		Motor Vehicle		Bank Deposit		No collateral	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Quantity Rationed	100	65	60	39	70	45	100	65
Risk Rationed	42	27	60	39	80	52	48	31
Price Rationed	13	8	35	14	5	3	7	5

**Source:** Computed from Field Survey Data, 2019.

Multiple response

**Agrodealers' Borrowers Table Based on Formal Source**

	$\Sigma$ Amount requested (₦)	$\Sigma$ Amount granted (₦)	$\Sigma$ Amount requested (₦)	$\Sigma$ Amount granted (₦)
BOA	50M	20M	10M	5M
MFB	35M	10M	3M	1.5M

**Determinants of Credit Rationing using the Estimated Seemingly Unrelated Model**

The result of the marginal effect of the explanatory variables in the Seemingly Unrelated Regression model as shown in Table 5, revealed that the same variables were significant under the three (3) categories of rationing. The variables are value of asset, personal savings, business experience and membership of association, business income and borrowing status. The three categories of credit rationing analysis revealed the different effects of the independent

variables on the determinants of credit rationing among agro-dealers. This approach showed that a particular variable manifest different effects on the three credit rationing categories. When the effect of such variable is generalized, it may be misleading and any policy recommendation based on such generalization may be counterproductive. For instance, the five variables that significantly influenced the three credit rationing categories had marginal effects that were absolutely different from one category to the other. As contained in Table 5, a marginal increase in the business income will

result in an agro-dealer being credit rationed in terms of risk by 14.75 percentage points but cause a decline in the probability of being risk rationed by 2.37 percentage points. The marginal effect of asset value with respect to price rationing and quantity rationing is quite close. A rise in the asset value of agro-dealer will cause a reduction in the probability of quantity rationing, but an increase in the likelihood of price rationing. Borrowing status was significant at 1% for quantity and risk rationed agrodealers and 5% level of significance for price rationed agrodealers. A unit increase in the business income will result in the probability of an agro-dealer being less quantity rationed by 0.07 points and risk rationed by 0.14 points,

but cause a decline in the probability of being price rationed by 0.02 points. Also, a ten percent increase in the value of asset of agro-dealer will reduce the probability of quantity rationing by 14.99 percent, and increase the likelihood of being price rationed by 15.11 percent. Also, it will result in increase in the probability of being risk rationed by 11.2 percent. From this study and the analyses of the rationing status, it implies that as the value of asset is increasing, the probability of an agrodealer being credit rationed by quantity, price or risk will be low. This justification is in line with Olomola (2014), that stated that as the value of assets of an agrodealers is increasing, the more chances he has to borrow. This is because there are enough assets to be used as collateral.

<b>Variable</b>	<b>Quantity Rationed</b>	<b>Price Rationed</b>	<b>Risk Rationed</b>
Value of Asset	-0.1499 (0.031)**	0.1511 (0.0402)**	0.112 (0.031)**
Personal Savings	-0.717 (0.000)***	- 0.070 (0.066)*	0.119 (0.016)**
Debt profile	- 4.23 (0.530)	0.3245 (0.380)	0.5431 (0.626)
Business Experience	0.001 (0.046)**	0.008 (0.036)**	-0.190 (0.066)**
Number of business outlets	0.321 (0.097)	-0.234 (0.080)	0.326 (0.017)
Member of Association	0.717 (0.000)***	0.144 (0.000)***	1.227 (0.000)***
Business Income	0.0753 (0.023)**	-0.0237 (0.027)**	0.1475 (0.000)***
Borrowing Status (Dummy)	0.344 (0.000)***	0.020 (0.012)**	0.234 (0.000)***
Sex (Dummy)	-0.017 (0.830)	0.023 (0.074)	-0.015 (0.835)
Educational Background	0.003 (0.924)	0.048 (0.040)	0.031 (0.310)

Source: Authors' Computation

Note: \* Significant at 10%, \*\* Significant at 5%, \*\*\* Significant at 1%

Note: Figures in Parentheses are p value.

### Conclusion

Despite incentives recently given to by the federal government in its Agricultural Transformation Agenda to facilitate financing of input distribution network in the agricultural value chain, agro-dealers are still subjected to different categories of rationing. With the spirited efforts at different levels of government to make agriculture perform its traditional roles, it is imperatives that novel approaches to adequately address agricultural financial risk be developed. Thus, it is important that all the stakeholders – government, agro-dealers and financial institutions come together to streamline their roles so as to deliver the target goals of diversifying the Nigerian economy with agriculture

playing the leading role. To this end, government needs to evolve friendlier regulatory framework where agricultural commodity and mobile asset scan be accepted as collaterals. Private sector should deploy resources on capacity building in the area of objective assessment associated with input distribution among agro-dealers for a vibrant trade/ membership of association. Also, association and cooperatives should train members on record keeping, maintenance of good saving culture and efficient management of inventories, so as to enhance their credibility for loan assessment. Trade association should solicit for credit support from the government, financial institutions and other private bodies for their members to boost their business operation

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