

ANALYSIS OF SAVINGS MOBILIZATION DETERMINANTS AMONG RURAL HOUSEHOLDS IN KOGI STATE, NIGERIA.

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ABSTRACT

Successive governments and development partners in the country have always initiated programmes that stress availability of credit to rural farmers for agricultural development, while neglecting savings mobilization. Therefore, this study examined some important determinants of savings mobilization in Ijumu Local Government Area of Kogi State .Primary data were generated through field interview and structured questionnaires which were administered to 120 respondents using random sampling technique. The analytical tools used were descriptive statistic and multiple regression analysis. The result showed that 90% were within the age group of 30 to 69 years while about 79% had formal education. The average family size was six while about 37% of the sampled household heads had between 10 to 20 years experience in farming. Results of the regression analysis showed that gross income, age of household head and years of experience in farming were significant. The study further revealed that regular income was the most important determinant of savings mobilization such that an improvement in farm income and other economic activities will necessitate an improvement in savings capacity. It was therefore suggested that improved source of income will enhance savings.

Key words: Savings mobilization, income and determinants

INTRODUCTION

Nigerian small-scale farmers are characterized by the use of unimproved inputs and traditional production tools that are capable of generating only very small income. This low income of the farmers leads to low levels savings and investment, which leads to low productivity and low income, and the cycle is complete. The cycle, often called the vicious cycle of poverty, concludes that a farmer is poor because he is too poor to save and invest (Macaver, 1999). Consequently, the Nigerian small-scale farmers are kept in positions of poverty in spite of numerous agricultural development programmes embarked upon by the government and non-governmental organizations to assist them. In order to stimulate investment in agriculture, which will lead to high productivity and high per capita income, savings have to be mobilized to break the vicious cycle of poverty.

It has been argued in the development literatures that savings propel development. Savings on the other hand are determined by a host of factors, however, there is lack of

empirical work on the determinants of savings and factors influencing savings mobilization in the study area. The broad objective of this study is to analysis savings mobilization among rural households in Kogi State while the specific objectives are to:

- i. describe socio-economic characteristics of household head
- ii. identify determinants of rural savings mobilization in the study area.

Conceptual Framework and Literature Review

Saving is fund of money put by as a reserve, money set aside, so that it can be used at a later date that is reserving money for future use (Wanyama *et al.*, 2008). Furthermore Awake (2011) defined savings are a means of supporting spending. There are many conceptual/theoretical approaches to savings however; the important and common one is the absolute income hypothesis by Keynes (1936) which assumes that saving is simultaneously determined with consumption. It posits a positive relationship between savings and income through marginal propensity to consume/save. However, there is a pervasive consensus by economists on a single variable determining savings in the literatures. This is most prevalent amongst the Keynesian economists whose vehement belief and stance on the potency of the variable clearly and unambiguously remain unwavering. This stance has been criticized because a single variable or factor cannot unilaterally determine the saving pattern of several households in the world at large (Yunus and Peters, 1984). According to Thirlwall (1986), savings are determined by a host of factors such as the average level of per capita income, the rate of growth of income and the pattern of income distribution between the rich and poor.

Furthermore, Aluko, 1972, Kessler (1984) and Ayanwale and Bamire, (2000) claimed that the saving behavoiour of farmers in developing countries is less dependent on the absolute level of aggregate income and more dependent among other factors on the relationship between current and expected income, the nature of business, household size, wealth and demographic variable like age.

METHODOLOGY

The study was conducted in Ijumu Local Government Area of Kogi State. The state is in the Southern Guinea savanna ecological zone of Nigeria. The study area is located in the western part of the state and lie between latitude $7^{\circ} 30'$ and 8° N and longitude $5^{\circ} 3'$ E and $6^{\circ} 0'$ E (Aiyeku, 1993). The state has an estimated population of 3,278,487 out of which Ijumu Local Government Area accounts for 119,929 (National Population Commission,2006).

A multi-stage sampling technique was adopted for this study. Four villages namely Iyah – Gbede, Aiyetoro, Iyara and Araromi were randomly selected. Random sampling technique was then used to select 30 household heads from each village. A total of 120 household heads were sampled to give each household an equal chance of being selected and interviewed. Descriptive statistics and multiple regression analysis were used for the analysis.

Descriptive statistics such as percentages, frequency distribution tables, arithmetic mean were used.

Multiple Regression Analysis

Multiple regression analysis was used to achieve objective (ii) of the study. One of the first steps in the application of regression analysis is the specification of the dependent and explanatory variables as well as the functional form of the behavioural model. The specification of the general form of the model would require that the variable to be explained (dependent variable), S be hypothesized as a function of independent variables X_1, X_2, \dots, X_k . The form of the model for analysis can be specified in implicit form as:

$$S = f(X_1, X_2, X_3, X_4, X_5, \mu)$$

Where

- S = Rural Savings mobilized (Naira)
- X_1 = Current assets (Naira)
- X_2 = Gross income (Naira)
- X_3 = Age of household head (years)
- X_4 = Household size (No)
- X_5 = Years of experience (years)
- μ = error term

The explicit forms of the multiple regressions are:

(1) Linear: $S = b_0 + b_1X_1 + b_2 X_2 + b_3X_3 + b_4X_4 + b_5X_5 + \mu$ -----

Double log: $\ln S = b_0 + b_1\ln X_1 + b_2\ln X_2 + b_3\ln X_3 + b_4\ln X_4 + b_5\ln X_5 + \mu$ ----- (2)

Semi-log: $\ln S = b_0 + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + \mu$ ----- (3)

Variable are as previously defined

b_0 = constant, $b_1 - b_5$ = regression estimates.

It should however be noted that even under the best modeling conditions, only part of the variable is reportedly ‘explained’ by the regression with the unexplained occurring because the regression does not perfectly predict the dependent variable. Three functional forms were fitted to the data collected. These were the linear, semi-log and double log. The linear function was selected as the lead equation based on these criteria: magnitude of coefficient of multiple determination (R²), appropriateness of the signs of regression coefficient and significance of F-values.

RESULTS AND DISCUSSION

Table 1 showed the distribution of respondents according to age. About 60% were between the ages of 31 and 50 years, about 17% were between the ages of 51-60 while only 4% were over 70 years. This showed that most of the respondents were middle aged. The average age of the respondents was 48 years. This age group is considered more productive, active and virile for the primary occupation of the respondents – farming.

The result also showed that about 21% of the respondents had no formal education, about 35% had primary school education, 25% had secondary education and about 19% had tertiary education. The analysis of educational status revealed that about 79% of the respondents had one form of formal education or the other. Majority of these terminated their education at primary school level (35%). This is not adequate to influence the adoption of new techniques that will improve their productive activities. Illiteracy is generally regarded as one of the factors militating against agricultural development among farmers in Nigeria. Education will enable farmers to handle instructional manuals on input and machinery uses. It will also help him to expand thereby generating more income that ultimately increases his savings capacity.

Household size was categorized into four groups namely: 1-5 persons, 6-10 persons, 11-15 persons and 16-20 persons. The result of this is as shown in Table 1. Data analysis revealed that average household size was 6 persons. Respondents in the first category made up 40% of total sample, the second category had 48%, third category 10% while the fourth category constituted about 2% of the sample. This indicates that substantial amount of household income will be consumed due to the relatively large household size.

Most researchers in lieu of management as a factor of production use years of farming experience of household head. It is believed that the more the years of farming experience of a farmer, the more the management ability of such farmer in making farm decisions. Table 1 showed that the mean years of farming experience of respondents were 26 years implying that most of the farmers interviewed were experienced farmers. The implication is that such farmers are likely to make sound decisions that would increase output, income and consequently savings. Farmers below 10 years of experience were about 6 per cent. About 37 per cent had experience of between 10 and 20 years, 27 per cent had experience between 21-30 years, 18 per cent had experience between 31-40 years while about 13 per cent had above 40 years.

Determinants of Rural Savings

Several factors are known to influence the saving capability of farmers. The purpose of this analysis was to determine the extent to which these important factors explain the variability of savings. Linear, semi log and double log functional forms were fitted to the data. Based on these criteria: (i) magnitude of coefficient of multiple determination (R^2), (ii) appropriateness of the signs of regression coefficient and (iii) significance of F-values; the linear function had the best fit and was selected as the lead equation for the analysis.

The regression result as shown on Table 3 indicated that about 55 per cent of the variability in savings was accounted for by the explanatory variables included in the model. The F-value which measures the joint significant of the entire explanatory variable in the model was 27.524 which were significant at 1% level of probability which confirms the suitability of the overall regression equation.

The regression signs for gross income, age of household heads and years of experience showed positive relationship with the amount of savings. The positive and significant relationship of savings with gross income is in agreement with the *a priori* expectation as income is expected to boost household food production by increasing access to more productive resources. According to Nwakeze (2000) households try to balance their accounts by spending according to their income that is households' consumption is a function of their income. This showed that farmers increase their savings as they grow old. This is however against the life cycle hypothesis which states that a person would be expected to save up to a point and then start dis-saving as he grows old. However, the results obtained showed that majority of farmers in the study area are in their productive age and tend to save to cater for their farm work.

As farming experience increases, farmers are expected to be more efficient in their farm operations and to earn more income, as well as increase their willingness to save as corroborated by Adeyemo and Bamire (2005).

Table 3 further showed that age of household head had the highest beta coefficient of 0.3381, this means that a unit standard deviation change in the independent variable leads to 0.3381 standard deviation change in the dependent variable. The β coefficient can be ranked thus: $X_3 > X_5 > X_1 > X_2 > X_4$.

A test for autocorrelation

To test for the presence or absence of autocorrelation; if $DW > d_u$ and $DW < 4 - d_l$, then there is no autocorrelation.

Where $DW =$ Dublin Watson

$D_u =$ Upper table value for Dublin Watson

$D_l =$ Lower table value for Dublin Watson.

Therefore, $1.86 > 1.758$ and $1.86 < 4 - 1.592$ (2.408) (Table 3)

It can be concluded that there is no autocorrelation.

Table 1: Socio-Economic Characteristics of Respondents

Age	Frequency	percentage
21-30	7	5.83
31- 40	27	22.5
41-50	46	38.33
51-60	20	16.66
61-70	15	12.50
>70	5	4.16
Educational Status		
No formal Education	25	20.83
Primary Education	42	35.00
Secondary Education	30	25.00
Tertiary education	23	19.16
Household Size		
1-5	48	40.00
6-10	58	48.33
11-15	12	10.00
16-20	2	1.66
Farming Experience		
Below 10	7	5.83
10-20	44	36.66
21-30	32	26.66
31-40	21	17.50
>40	16	13.33
Total	120	100

Table 2: Description of Explanatory Variables used in Modeling Determinants of Savings

Variables	Description
Savings (S)	The amount of savings mobilized over a period (year) measured in Naira. Household with higher income other things being equal are expected to save a higher amount.
Current Asset (X_1)	Amount of cash in hand, value of harvested crops and animals at hand (₦)
Gross income (X_2)	Summation of farm and non-farm income accruing to respondents at the time of the study. The expected effect of this on savings is positive.
Age of Household head (X_3)	The age of the household head at the time of the study in years.
Household Size (X_4)	Summation of the number of wives, children, relatives and dependents living in a household at the time of investigation.
Years of Experience (X_5)	Number of years that the household head had been in farming.

Table 3: Estimated Regression Coefficient

Variables	Regression coefficient	T-Values	Beta Coefficients
Constant	-42952* (7902.78)	-5.435	
Current Asset(X1)	-0.06265 (0.0834)	0.751	0.0531
Gross Income (X2)	0.1541* (0.0267)	5.752	0.0424
Age (X3)	909.6632*	4.350	0.3381
Household Size (X4)	(209.1388)	-0.488	0.0368
Years of Exp. (X5)	-413.0332	3.889	0.2928
R ² =0.546	(846.81168)		
R-2 =0.527	748.3643*		
DW =1.83	(192.4468)		

*= Significant @1% level of probability; DW= Dublin Watson test

Figures in parenthesis are standard errors.

CONCLUSION AND RECOMMENDATION

Regular income from both farm and non-farm activities is the single most important determinant of savings mobilization in the study area. It was therefore recommended that adequate provision of micro credit to farmers will enhance their productivity and investment and this will invariably increase their income and savings. Physical presence of financial institutions in the study area will boost savings mobilization.

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