
Effect of Social Capital on Investment of Members in Rotational Savings and Credit Associations in Sabon-Gari Market, Zaria, Nigeria

Sayed Ndagi Shuaib

(Department of Business Administration, Faculty of Management and Social Sciences,
Ibrahim Badamasi Babangida University, Lapai, Niger State-Nigeria)

Abstract: The study investigated the effect of social capital on investment of members in cooperative associations of Nigeria. The objective of this study was to examine the effect of social capital on investment of members in Rotational Savings and Credit Associations (RoSCAs) in Sabon Gari Market - Zaria, Kaduna state of Nigeria. This study adopts a field survey research design using closed ended questionnaire on a grounded theory. The population of study is 170 traders who are members of six different RoSCAs selling Meat, Chickens, Frozen Fish, Foodstuff, Kitchen Utensil, Readymade Materials, Palm Oil, Gari (Cassava Flour), Yam, Fresh Tomatoes, Medicine, Provisional Items, Cloths, Shoes/Bags, Books/Stationary Materials, etc. Taro Yemane sample size formula was used to sample 119 elements of the population with the aid of probability random sampling technique. Questionnaire instrument is utilized to collect data and analyzed using SPSS software. The result indicates that social capital variables such as members' income and period of contribution have significant positive effects on investment. However, social capital variables like gender, educational qualification, savings and credits have insignificant positive effect on investment. The study recommends that policy makers, government and informal financial industry should encourage traders and people to partake in the formulation of RoSCAs in markets and non markets places. Also, government should formulate policies that will improve the standard of living of low income group of people in order to boost their income level. This is because social capital variable like income has significant positive effect on investment in RoSCAs - Sobon Gari market, Zaria- Kaduna state, Nigeria.

Keywords: Income, Investment, Social Trust, Social Benefit and Network.

1. Introduction

Social capital is an avenue for poor and low income group of people to raise money for investment in cooperative associations. Social capital is glue that holds people together in communities or cooperative associations such as Rotational Savings and Credit Associations (RoSCAs), Solidarity Based Cooperative System (SBCS) and Rural Banking Cooperative System (Ijaiya, Sakariyau, Dauda, Paiko & Zubairu, 2012 and Oluyombo, 2012). The budding number of informal financial institutions which RoSCAs belongs to are as a result of bank's cost of borrowing, collateral pledging and regulatory failure. The size of the informal financial institution cannot be easily determined because of its complexity. But, it has been variously claimed that the informal financial sector is larger than formal sector in many developing countries particularly in Africa. In some African countries, the sum of loans transacted through informal financial institutions exceeds the formal institutions indicating large investment potentials ((Wai, 1980; Chandarvarkar, 1985; Anyeetey & Hyuha, 1991; Christensen, 1993 in Adofu, Antai & Alabi, 2010). When there are presences of large informal financial institutions two main problems emerge. The first problem is an indication that investment and savings potentials are high in relation to the size of formal finance. The second problem is its impact on monetary policy and investment especially when a large amount of money is outside the formal banking system (Adofu, Antai and Alabi, 2010).

The study of social capital in the RoSCAs is of immense benefit to policy makers, managerial team and informal finance industry. This is because the study provides much-needed information to policy makers who are the potential promoters and regulators of the cooperative associations. Also, the executives who are managerial teams of the RoSCAs as well as the informal financial industry the association operate in Nigeria. Furthermore, this study attempts to add to existing literature on social capital in RoSCAs. Adofu *et al.*, (2010) conducted a study on savings mobilization and investment in RoSCAs using chi square a non parametric statistic and the finding is insignificant but this study makes use of regression statistic by coding the variables. Moreover, this study adapts previous research studies with slight modification in the model.

The focus of this study is RoSCAs in Sabon Gari Market - Zaria, Kaduna state of Nigeria. The market is chosen as a study area because there are over hundred (100) RoSCAs whose members cut cross people selling Meat, Chickens, Frozen Fish, Foodstuff, Kitchen Utensil, Readymade Materials, Palm Oil, Gari (Cassava Flour), Yam, Fresh Tomatoes, Medicine, Provisional Items, Cloths, Shoes/Bags, Books/Stationary Materials, etc (Akarami, 2014). Some of these RoSCAs have no name and few of them have names. The ones that have no name are ascribed to the money members and contribute as savings/credits in rotational basis. But those with names are called “Allah is Faithful”, “Adashi Yanke Talauci”, “God is Good all Time”, “Growth for the Land”, “Peace”, “Plan for your Future”, “We Save for the Future Problem etc. This study selected; “We Save for the Future Problem” (WSFP) because it has six (6) groups of RoSCAs whose members contributing N200; N500; N700, N1,000, N5,000, N10,000, N20,000 and N50,000 daily, weekly and monthly as savings/credits in rotational manner.

The limitation of this research is that the study cannot be generalized as it covers only Sabon Gari Market in Zaria, Kaduna State and thus, cannot be generalized to mean Nigeria. The study is unique as it examines the effect of social capital on investment of members in RoSCAs in Zaria, Kaduna State of Nigeria for the first time which was not conducted earlier based on the available literature.

1.1 Statement of the Problem

Banking sector un-served financial gaps such as interest free loan, collateral free loan and low or single digit interest rate among others increase the influence of social capital in cooperative associations. The alternative source of financing to fill un-served financial gaps is cooperative associations such Rotational Savings and Credit Associations (RoSCAs). The members of RoSCAs in particular may be contributing money/material, knowledge and labour in rotational basis as social capital for the benefits of the members. The scheme is interest free, no collateral, involves members of similar characteristics and contribution of money by members is equal. Yusuf, Gafar and Ijaiya (2009) observe RoSCAs as a financial scheme where members pool money by making periodic payments into a fund which they then rotate among them as a lump sum payment. Thus, the question that needs answers is “To what extent does social capital or social relation affect investment level of members of RoSCAs in Nigeria?” Answers to this question enable the study to add to existing literature by examining the effect of social capital on investment level of members of RoSCAs in Sabon Gari Market - Zaria, Kaduna state of Nigeria.

1.2 Research Objective

The main objective of this study is to investigate the effect of social capital on investment in cooperative associations in Nigeria. Specifically, the study intends to examine the effect of social capital on investment of members in RoSCAs in Sabon Gari Market - Zaria, Kaduna state of Nigeria.

1.2 Research Hypothesis

The above objective can be achieved through the null hypothesis after testing. Thus, the null hypothesis is stated as follows:

H₀: Social capital has no significant effect on investment of members in RoSCAs in Sabon Gari Market - Zaria, Kaduna state of Nigeria.

2. Literature Review

2.1 Concepts and Measurements of Investments

Investment is an act of devoting time, effort, or energy to a particular undertaking with the expectation of future profit. Also investment is committing certain amount of money or funds into stocks, bonds, debentures and other valuable assets with the aim of getting returns associated with risks in future. Akrani (2011) says investment in simple terms, refers to purchase of financial assets. But, investment goods are those goods, which are used for further production. Hassett (2008) opines that by investment, economists mean the production of goods that will be used to produce other goods. This definition differs from the popular usage, wherein decisions to purchase. Investopedia (2015) defines investment in general terms as asset or item that is purchased with the hope that it will generate income or appreciate in the future. In an economic sense, an investment is the purchase of goods that are not consumed immediately but are used in

the future to create wealth. In finance, an investment is a monetary asset purchased with the idea that the asset will provide income in the future or appreciate and be sold at a higher price. In the Keynesians term, investment is the commitment of capital that works to increase the level of income and production as well as the purchase of capital goods (Jhingan, 2003). Thus, the operational definition of investment in this study is the commitment of money (savings/credits) to purchase today's goods that will generate positive rate of return with minimum risk in future. This investment is neither speculative nor gambling. But, it is rational investment that is based on the facts and figures.

The market – to – book value ratio has become very popular measure of investment opportunities. Tobin Q-theory of investment uses market – to – book ratio to measure investment (Eklund, 2013). In addition, investment performance is measured in the form of return on investment portfolio. The investment portfolio can contain a single asset or multiple assets. The investment performance is measured over a specific period of time and in a specific currency (Feibel, 2003). In this context, investment is the subjective measurement of returns on investment assets such as inventories.

2.2 Theories of Investments

The theories of investment start with the basic profit maximization theory. The theory states that a business organization's main objective is to maximize long term profit and developing sustainable competitive advantage over competitive rivals in the external market place (Akabari, 2014). According to Eklund (2013), Jorgenson's neoclassical investment theory looked at investment on the perspective of profit/value maximization of a firm. That is maximizing profits that will yield an optimal capital stock for the firm. Moreover, the Clark and Samuelsson accelerator theory is, in fact, merely a special case of the neoclassical theory of investment where the price variables have been reduced to constants. Keynes and Irving Fisher, both argued that investments are made until the present value of expected future revenues is equal to the opportunity cost of capital. This means that investments are made until the Net present value is equal to zero. Also an investment is expected to generate a stream of future cash flows. In addition, Brainard and Tobin Q-theory of investment states that investment is made until the market value of assets is equal to the replacement cost of assets. Furthermore, by adding a marginal adjustment cost function to the profit function the neoclassical theory becomes logically equivalent to the Q - theory. Thus, Jorgenson's neoclassical theory of investment and Keynes and Irving Fisher investment theory underpinned dependent variable (investment) of this research model presented in the methodology. This is because the traders who are members of different RoSCAs make investments from money they received or packed as savings/credits with expectation that they will maximize profit from investment portfolios.

2.3 Concepts and Measurements of Social Capital

The concept of social capital is a multidimensional one and there is no unique definition commonly accepted by the social sciences research scholars. Social capital may be defined as networks, norms and trusts that exist among people staying together and contribute money capital, human capital and labour capital to the benefit of each member of cooperative society. Money capital is the cash contribution made by individual members of the union based on per capita income or salary. In addition, human capital is contribution of cognitive ability by each member of the union depending on individual educational qualification and discipline. Labour capital on the other hand is the individual effort or energy contribution for the betterment of each member and the union at large. All these contributions made by members are possible through a set of connections; informal rules and regulations; and confidence that exist among members of a cooperative society. Johannes (2009) views social capital as degree of unity that exists among people in communities or unions. Social capital refers to the quality of human relationships and the opportunities that emanate from them that could be of benefit to the population concerned. It is generally interpreted as the degree of trust, cooperative norms, networks and associations within a society. Putnam (1994) in Sabatini (2013) refers to social capital as features of social life networks, norms and trust that enable participants to act together more effectively to pursue shared objectives.

According to WHO (1998) and HAD (2004) in Yusuf (2008), social capital is the processes among people that establish networks, norms and social trust, and facilitate coordination and cooperation for mutual benefit. The key elements of social capital are recognized as social resources, collective resources, economic resources and cultural resources. Social resources are informal arrangements between members

of union or neighbors in a community. Collective resources are common in self-help groups, credit unions, community safety schemes. Thirdly, economic resources refer to levels of employment; access to green, open spaces. Lastly, cultural resources are libraries, art centers and local schools. All these resources are important in a community but the importance is not noticed when there is effective social capital in place. The scholar further states that social capital operates at the macro and micro level. At the macro level, social capital includes institutions such as government, the rule of law, civil and political liberties etc. There is overwhelming evidence that such macro level social capital has a measurable impact on national economic performance. At the micro level, social capital refers to the networks and norms that govern interactions among individuals, unions, households and communities. Such networks are often given structure through the creation of local associations or local institutions (Akinleye and Majekodunmi, 2012). The operational definition of social capital in this context is the concept of social capital that relates to economic resources where people contribute money as savings/credits in rotational manner.

2.4 Social Capital Theory

Social capital theory focuses on the main dependent and independent constructs/factors. The dependent constructs of social capital are emotional support, social benefits and performance while the independent variables are trust, network diversity, network size, demographic diversity of members of association. Thus, social capital theory is seen in five dimensions: (1) network- of lateral associations that varies in density and size occurring among individuals and groups; (2) reciprocity - expectation that short or long term kindness and service will be returned or paid back; (3) trust-willingness to take initiations (or risk) in a social context based on assumptions that others will respond as expected; (4) social norms the unwritten shared values that direct behavior and interaction; (5) personal and collective efficacy- the active and willing engagement of critic within participative community (Bourdieu, 1983, Coleman, 1988, Onyx & Bullen, 2000 and Paxton, 2002 in Putnam, 2004). In a nutshell, social capital theory is social connections based on tangible and intangible benefits of individuals or community in short or in the long run. These benefits could be social, psychological, emotional and economical. Thus, the research models of this study presented in the methodology has social capital as an independent variable. This variable is underpinned or supported by social capital theory that relates to economic benefits, trust, network diversity, network size, demographic diversity of members in the associations.

2.5 Empirical Literature on Social Capital

When two or more people come together to contribute knowledge, effort/energy and money jointly, it enhances the benefits of association. Baiyegunhi (2013) examined 300 rural households' social capital and welfare in Msinga, KwaZulu-Natal, South Africa. Data are collected from representative households on social capital variables such as density of membership, heterogeneity index (such as neighborhood, kin group, educational level, economic status, occupation, religion, gender and age), decision making index, meeting attendance index, cash and labour contribution which were coded using binary digit of 0 to 1. The regression result shows that social capital endowments have a statistically significant positive effect on household welfare, in addition to some household's demographic and socio-economic characteristics. The study concluded that, access to social capital among other factors, is very crucial for improved rural household welfare and poverty reduction. It is therefore important for government to have knowledge of existing social groups and networks as this will improve the effectiveness of the present strategies aimed at reducing poverty. However, the study is on welfare of rural households in South Africa which is not applicable to Nigeria.

In Nigeria, Ogunrinola (2011) investigated social capital and earnings distribution among 275 female micro-entrepreneurs in five rural communities in Ogun State, Nigeria. The regression results show that though human capital (e.g. education) variables contribute to earnings in the usual Mincer's parlance, social capital as well as neighborhood effect variables appear much more important determinants. The study recommends by advocating a multi-disciplinary approach to the study of enterprise development as well as a coordinated approach by the government to promote self-help organizations among women in the rural areas. Though, the study is on earning distribution of female micro-entrepreneurs in Nigeria, Olalekan and Emmanuel (2012) examined social capital and rural households' welfare using samples of 90 respondents in Surulere Local Government Area, Oyo State, Nigeria. Their study reveals that

membership index; meeting attendance and labour contribution are statistically significant and are positively related to household welfare. But heterogeneity index (such as age, age-squared, household size,) and cash contribution are also significant but negatively related to household welfare. Furthermore, Akinleye and Majekodunmi (2012) investigated the determinants of social capital and sundry variables on household wellbeing sampling 120 respondents in Southwestern Nigeria. The result reveals that some working household members, religion, membership of cooperative association and membership of political association are the variables that determine income (a proxy for well being).

However, working household members, membership of cooperative association and membership of political association are the most important factors determining well being that is significant at 1% level and negatively related to well being. Religion affiliation also shows inverse and significant different at 5%. The study recommends that there should be a provision for necessary infrastructure by the government in order to encourage greater networking among the rural populace. But, the study is on well being of rural households in South- West, Nigeria. Adepoju and Oni (2012) investigated effects of social capital on household welfare, sampling 300 rural households in Ekiti and Oyo States. The result shows significant relationships on the age, sex, education, marital status, family size of the respondents and farming status with household welfare. Looking at the critiques and limitations of past studies, this study contributes to knowledge in adding to existing literature by examining the effect of social capital on investment in RoSCAs in Sabon-Gari Markets, Zaria, Kaduna state-Nigeria.

2.6 Empirical Literature on Rotational Savings and Credit Associations

The Rotational Savings and Credit Associations (RoSCAs) is one of the informal financial institutions that have affected investments, poverty alleviation, employment generation and economic development. In America and Asia, Anand, Ortega, Raccanello and Vega (2010) studied RoSCAs as a health prevention financing mechanism in Mexico. Basic probit model was used to test the hypothesis which found that funds saved are used to finance expenditure but those that have been spent for preventing diseases are not related to high health expenditure. The study though is on health prevention financing mechanism in Mexico which is not valid to the Nigeria situation. Lasagni and Lollo (2011) investigated 30,000 individuals participating in RoSCAs in Indonesia. The results provide new evidence on the role of social capital for fostering collective action and offer new insights about community-driven development with the help of regression statistical model. RoSCAs are by no means the whole solution to finance gaps in small firms, but they do play an important part in helping resolve some of the problems. However, the study gives reasons why individuals participate in RoSCAs in Indonesia.

In Africa, Kedir and Dasgupta (2012) examined 1500 households in RoSCAs in urban Ethiopia on whether the characteristics of the institutions are more important than that of members. The finding reveals that *savings are significantly affected by the characteristics of the members but not that of the informal saving institution. But*, the study examines how savings significantly affected member's characteristics in urban Ethiopia alone. Bisrat, Kostas and Feng (2012) studied financial benefit to join RoSCAs in Ethiopia. The study sampled 121 RoSCAs members and used descriptive statistics. The findings reveal that financial motives outweigh all other motives in large *Equbs* while the social motives are most important for members of small RoSCAs. Most large and medium size *Equb* members choose *Equbs* than other possible alternatives because it is less expensive and involves very small transaction cost, if any. Nevertheless, the study investigated financial benefit of being a member of RoSCAs in Ethiopia-East Africa.

In Nigeria, Adofu, *et al.* (2010) examined informal savings mobilization and investment on samples of 187 respondents in RoSCAs, Kogi State. The findings reveal that informal savings mobilization had no significant impact on investment in the rural sector while government intervention at the grassroots level had significant impact on the promotion of ethical savings mobilization to drive investment projects. The study recommends inter alia that sustainable RoSCAs should be inaugurated per village unit to broaden rural savings channels and also the proactive participation of the grassroots' apparatus of state in the disbursement of credits facilities, monitoring of project execution and performance to be used as indicator for further credit grants for expansion. However, the study is on savings mobilization and investment in RoCSAs Kogi State of Nigeria. Abdul-Yekeen (2012) examined RoSCAs in economics development of

Ilorin metropolis in Nigeria. It was discovered that respondents were likely to join RoSCAs even if they do not earn income. Thus, contributing about 30% of their incomes to RoSCAs and this showed that savings to the purse of RoSCAs are not idle but active funds which could lead to an instantaneous multiplier effect of over 140% growth of the economy. The study recommends that individual persons, households, firms and governments should do everything possible to promote RoSCAs by prompt payment of dues, organization of ROSCAs, ensure that RoSCAs were available, and promulgate RoSCAs laws respectively. The study is on how RoSCAs aid economic development of members in Ilorin, Kwara state of Nigeria.

3. Methodology

3.1 Research Design and Instrument

This is a descriptive and quantitative research where subjects are measured once with the intention to establish associations between social capital and investment. This study adopts a field survey research design using questionnaire instrument in sourcing for primary data from members of *We Save for the Future Problem (WSFP)* conducted in December 2014 at Sabon Gari Market- Zaria, Kaduna State. This association has six (6) groups of RoSCAs whose members were contributing N200; N500; N700, N1,000, N5,000, N10,000, N20,000 and N50,000 daily, weekly or monthly as savings/credits in rotational manner (Table 1.1). The survey research involves gathering of data from representative sample to meet the research objectives. It is relatively quick, inexpensive, efficient, accurate and flexible (Cavan, Dalahaye & Sekaran, 2001). Questionnaire was used as the instrument for data collection.

Table 1.1: Distribution of WSFP Contributions by RoSCAs Membership

S/N	Money Respondents contribute Daily, Weekly or Monthly Basis	Members' Population	Proportion in Percentage (%)	Sample drawn from the population in proportion
1	₦200	70	41	49
2	₦500	10	5.9	7
3	₦700	30	17.6	21
4	₦1,000	20	11.8	14
5	₦5,000	10	5.9	7
6	₦10,000	10	5.9	7
7	₦20,000	10	5.9	7
8	₦50,000	10	5.9	7
	Total	170	100	119

Source: Survey Data, 2014.

3.2 Population, Sample Size and Sampling Technique

The population of study is 170 traders who are members of different RoSCAs schemes of *We Save for the Future Problem (WSFP)* - RoSCAs of Sabon Gari market. The element of the population are traders selling meat, chickens, frozen fish, foodstuff, kitchen utensil, readymade materials, Palm Oil, Gari (cassava flour), yam, fresh tomatoes, medicine, provisional items, cloths, shoes/bags, books/stationary materials, etc (Akarami, 2014). The sample of 119 members is elicited from the population with the aid of Taro Yemene's formula of determining sample size as shown below (Kelechi, 2008 in Ogbadu, 2009). The required sample size of 119 is within the Roscoe's rule of thumb for determining sample size that is larger than 30 and smaller than 500 appropriate for most research studies (Cavan *et al.*, 2001).

$$n = \frac{N}{1 + N(e)^2}$$

Where:

n is the sample size,

N is the population,

1 is constant and

e is level of significance (i.e. 0.05).

$$n = \frac{170}{1 + 170(0.05)^2}$$

$$n = \frac{170}{1 + 170 (0.0025)} = \frac{170}{1 + 0.425}$$

$$n = \frac{170}{1.425} = 119$$

The simple random sampling technique of probability sampling is utilized to select 119 subjects of the sample. In this sampling technique, every element in the population has a known and equal chance of being selected as a subject (Cavan *et al.*, 2001). The intention of using this technique is to have a sample drawn from traders who are male and female respondents.

3.3 Methods of Data Collection

Questionnaires were administered to respondents to illicit relevant information through a trained research assistant who is a member of *WSFP – RoSCAs* (Hanny, 2014). This is because it is easy for her to identify, distribute and collect back the administered questionnaires. This questionnaire is close ended type of questions. The close ended questions consist of multiple choice questions and allow the respondents to make quick decision. The close ended questions are easy to interpret and code (Cavan *et al.*, 2001 and Araoye, 2004). These questions were adapted from the works of Yusuf (2008); Johannes (2009); Ebi, Okon, and Ubi (2013); and Alexander, Omonona, Oluwatayo and Ogunleye (2013) with little contextual modifications.

3.4 Methods of Data Analysis

The coded data is analyzed using both nominal and interval scale. Nominal scale split data into mutually exclusive (for instance: male or female) while interval scale set data on continuum (for instance: low, moderate or high). Data transformed from primary to secondary data are inputted in Statistical Package for Social Sciences (SPSS)-version 16. Pearson Product Moment correlation coefficient ($-1 \leq r \leq 1$) is utilized to test the strength or degree of relationships among the study variables. This is because the data is not based on ranking in order of categories. But the regression statistic is used to test the effect of independent variables on dependent variables. We therefore, reject the null hypothesis if the result of this study is significant at 1% (0.000 – 0.005), and 5% (0.006 – 0.050) level of significance, otherwise we do not reject or accept the null hypothesis because there is no sufficient reason for rejection.

3.5 Validity and Reliability of the Questionnaire Instrument

Validity and reliability of the questionnaire is very important because it helps in measuring how valid and consistent is the measuring instrument (Cavan *et al.*, 2001). In this study, content validity by an expert in the field of research is employed for the reason that the questionnaire is distributed to respondents through a research assistant. In order to measure the reliability of the questionnaire instrument, Cronbach's Alpha reliability statistical test is adopted. The statistic test measures internal consistency based on average inter-item correlation. The Cronbach's Alpha result tests for independent and all the variables are 0.720 and 0.751 respectively. If Chronbach's Alpha is 0.70 or greater (0.60 or greater for exploratory research), we have support on the interval consistency of the items justifying their use in the scale (Pallant, 2001).

3.6 Model Specification

In this model, the dependent variable is investment while the independent variable is the heterogeneity index or variables known as social capital. The heterogeneity index in this study adapt the analytical framework of Yusuf (2008); Johannes (2009); Ebi *et al.* (2013); Alexender *et al.* (2013) and Grootaert in Sabatini (2013) after the improvement on the models.

Y	=	investment
a	=	Constant or Intercept
B ₁B ₇	=	Regression Coefficients
GDR	=	Gender (male or female)
EduQual	=	Educational Qualification (highest)
IncomePm	=	Estimated Income per month as economic status
Msavings	=	Money contributed by members as savings
PeriodCont	=	Period of cash or monetary contribution (daily, weekly, monthly etc.)
Mcredits	=	Money taken or packed as credits by members
e	=	Error term.

3.7 Techniques in Coding the Variables

The data collected through the questionnaires administered to respondents who are members of *We Save for the Future Problem (WSFP)*–RoSCAs are coded using the following techniques in table 1.2.

Table 1.2: Description of Variables used in the Analysis

S/N	Variable	Variables Definition
1	GDR	Gender [Female = 0, Male = 1]
2	EduQual	Highest educational qualification.[Primary Education Certificate = 0, WAEC/SSCE/NABTE = 1, OND/NCE= 2, HND/B.Sc. Degree = 3, Masters Degree = 4, Ph.D = 5]
3	IncomePm	Estimated monthly income [I ₦50, 000 = 0; ₦50, 000 – ₦100, 000 = 1; ₦101,000 - ₦150, 000 = 2; ₦151, 000 – ₦200, 000 = 3; ₦201, 000 - ₦250, 000 = 4; ₦251, 000 - ₦300, 000 = 5; ₦301, 000 - ₦350, 000 = 6; I ₦350, 000 = 7].
4	Msavings	Money saved or cash contribution on daily, weekly and monthly basis. [? ₦1,000 = 0; ₦1,000- ₦10,000 = 1; ₦11,000 – ₦20,000 = 2; ₦21,000 – ₦30,000 = 3; ₦31,000– ₦40,000, = 4; ₦41,000– ₦50,000 = 5; ₦51,000– ₦100,000 = 6; I ₦100,000, = 7].
5	PeriodCont	Indicates period of contribution of money or cash to the associations? [Daily = 0, Weekly = 1, Monthly = 2]
6	Mcredits	Indicates money receive or pack as credits after non defaulting savings in rotational manner. [? ₦10,000 = 0; ₦10,000 – ₦50,000 = 1; ₦51,000 - ₦100,000 = 2; ₦101,000 - ₦150,000 = 3; ₦151,000 - ₦200,000 = 4; ₦201,000 - ₦250,000 = 5; ₦251,000- ₦300,000 = 6; I ₦300, 000 = 7].
7	Y = Investment	If social capital or social relation does not increase investment level in RoSCAs. [No = 0, Otherwise Yes = 1]

Source: Survey Data, 2014

4. Results and Discussions

This section presents data of the variables of the study in tables. The tables include correlation coefficient matrix and summary of regression result, then the data analyses to test the hypothesis of the regression model.

4.1 Test of Hypothesis

The section consists of correlation and regression result for testing hypothesis. The correlation matrix provides information on the degree of relationship between social capital and investment variables using two (2) tail test of Pearson Product Moment correlation coefficient (Table 1.3). The two tail test is used because the hypotheses are not directional. Table 1.3 shows correlation matrix between gender, educational qualification, income, savings, and period of contribution, credits and investment of members

of RoSCAs. The matrix indicates that there are linear relationships between the study variables. Income has the highest perfect positive Pearson correlation coefficient value (0.824) which is significant at 1% level. Therefore, income has relatively strong positive relationship with investment. This means income per month of members will significantly rise with investment. Besides, savings has positive Pearson correlation coefficient value (0.608) which is significant at 1% level. Thus, savings has relatively strong positive relationship with investment. This reveals members' savings will significantly rise with investment. In addition, credits have positive Pearson correlation coefficient value (0.459) which is significant at 1% level. Therefore, credits have relatively strong positive relationship with poverty alleviation. This discloses members' credits will significantly rise with poverty alleviation

Table 1.3: Correlation Matrix between Social Capital Variables and Investment

Variable		Investment	Gender	Educational qualification	Income per month	Members savings	Period of contribution	Members credits
Investment	Pearson Correlation	1	.220 [*]	.325 ^{**}	.824 ^{**}	.608 ^{**}	.341 ^{**}	.459 ^{**}
	Sig. (2-tailed)		.016	.000	.000	.000	.000	.000
	N	119	119	119	119	119	119	119
Gender	Pearson Correlation	.220 [*]	1	.145	.217 [*]	.188 [*]	.083	.132
	Sig. (2-tailed)	.016		.115	.018	.040	.370	.152
	N	119	119	119	119	119	119	119
Educational qualification	Pearson Correlation	.325 ^{**}	.145	1	.321 ^{**}	.177	-.034	.162
	Sig. (2-tailed)	.000	.115		.000	.055	.711	.078
	N	119	119	119	119	119	119	119
Income per month	Pearson Correlation	.824 ^{**}	.217 [*]	.321 ^{**}	1	.629 ^{**}	.250 ^{**}	.435 ^{**}
	Sig. (2-tailed)	.000	.018	.000		.000	.006	.000
	N	119	119	119	119	119	119	119
Members savings	Pearson Correlation	.608 ^{**}	.188 [*]	.177	.629 ^{**}	1	.448 ^{**}	.862 ^{**}
	Sig. (2-tailed)	.000	.040	.055	.000		.000	.000
	N	119	119	119	119	119	119	119
Period of contribution	Pearson Correlation	.341 ^{**}	.083	-.034	.250 ^{**}	.448 ^{**}	1	.432 ^{**}
	Sig. (2-tailed)	.000	.370	.711	.006	.000		.000
	N	119	119	119	119	119	119	119
Members credits	Pearson Correlation	.459 ^{**}	.132	.162	.435 ^{**}	.862 ^{**}	.432 ^{**}	1
	Sig. (2-tailed)	.000	.152	.078	.000	.000	.000	
	N	119	119	119	119	119	119	119

Source: Computed by the Author (SPSS, Version, 16)

*. Correlation is significant at the 0.05 level (2 - tailed)

**. Correlation is significant at the 0.01 level (2 - tailed).

However, period of contribution has positive Pearson correlation coefficient value (0.341) which is significant at 1% level. Hence, period of contribution has relatively weak positive relationship with poverty alleviation. This reveals that period of contribution of members will significantly rise with poverty alleviation. Educational qualification of members has positive Pearson correlation coefficient value (0.325) which is significant at 1% level. Thus, educational qualification has relatively weak positive relationship with investment. This shows that educational qualification of members will significantly rise with investment. Also, gender has positive Pearson correlation coefficient value (0.220) which is significant at 5% level. Hence, gender has relatively weak positive relationship with investment. This means gender of members will significantly rise with investment. These results are similar to the findings of Adepoju and Oni (2012) that identified the significant relationships of social capital variables such as age of respondents; sex, education, marital status, household size and farming status with household welfare.

From the above analysis, income, educational qualification, savings, period of contribution, credits have positive relationship with investment which is significant at 1% while gender of members has positive relationship with investment which is significant at 5%. There is no problem of multi collinearity since none of the correlation coefficient values are more than 0.9. Collinearity or multi collinearity is undesirable situation when one independent variable is a linear function of other independent variables (Pallant, 2001). In order to provide information relating to effect of social capital on investment, Table 1.4 shows summary of the regression results.

Table 1.4: Summary of Regression Results

Model	Coefficients β	Standard Error	T	Significance Level
Constant ()	-0.085	0.052	-1.613	0.110
Gender	0.020	0.037	0.533	0.595
Educational Qualification	0.030	0.020	1.516	0.132
Income per month	0.451**	0.045	9.927	0.000
Members savings	0.020	0.036	0.563	0.575
Period of contribution	0.075*	0.035	2.168	0.032
Members savings	0.006	0.033	0.189	0.851
R	0.843			
R ²	0.710			
Adjusted R ²	0.695			
F Statistics	45.776**			
Significance of F (P-alpha value = 0.000)				0.000
Durbin Watson	1.880			

Source: Computed by the Author (SPSS, Version, 16).

Dependent variable: Investment

Significance Level: One percent (**), Five percent (*)

Table 1.4 shows the values of estimated linear regression coefficients of gender, educational qualification, income, savings; period of contribution and credits of members of RoSCAs with constant value of -0.085. Income has the highest significant positive coefficient value of 0.451 with standard error of 0.045, t - value of 9.927 and significance level of 0.000 (1%). Thus, income has significant positive effect on investment. This result is similar with finding of Ebi *et al.* (2010) observing that social capital significantly affects economic growth in Nigeria. Period of contribution has significant positive coefficient value of 0.075 with standard error of 0.035, t - value of 2.168 and significance level of 0.032 (5%). Thus, period contribution has significant positive effect on investment. This result is similar with findings of Ogunrinola (2011) examining social capital as important determinants in Nigeria.

However, educational qualification has highest insignificant positive coefficient value of 0.030 with standard error of 0.020, t - value of 1.516 and insignificance level of 0.132. Hence, educational qualification of members has insignificant positive effect on investment. This result is different from finding of Ogunrinola (2011) who observed that education is one of the important determinants of social capital. Gender has insignificant positive coefficient value of 0.020 with standard error of 0.037, t - value of 0.533 and insignificance level of 0.595. Therefore, gender of members has insignificant positive effect on investment. This result is different from finding of Dagnelie *et al.* (2008) which stated that social capital was affecting strength of association and default level in Nigeria. Moreover, savings has insignificant positive coefficient value of 0.020 with standard error of 0.036, t - value of 0.563 and insignificance level of 0.575. Thus, members' savings has insignificant positive effect on investment. This result is similar with the finding of Adofu *et al.* (2010) which discovers that savings has insignificant positive effect on investment. Also, Olalekan and Emmaual (2013) views that savings has positively and insignificantly relationship with welfare of members in Nigeria. Credits have the least insignificant positive coefficient value of 0.006 with standard error of 0.033, t - value of 0.189 and insignificance level

of 0.851. Therefore, members' credits have insignificant positive effect on investment. This result is similar with the finding of Magali (2013) reporting that credits or loan size contributed to default level in Tanzania.

In diagnose test of the model, the values of R , R^2 and adjusted R^2 are 0.843, 0.710 and 0.695 respectively. The R^2 value is the coefficient of correlation that explains the relationship between the dependent and independent variables which is a strong positive relationship. There is no problem of multi co linearity since none of the correlation coefficient values are more than 0.9 (Pallant, 2001). Co linearity or multi co linearity is undesirable situation when one independent variable is a linear function of other independent variables. In addition, the R^2 value tells us that 71 percent of the variation in the dependent variable (investment) is explained by the independent variables (social capital) of the model. On the other hand, the adjusted R^2 statistic corrects the R^2 value to provide a better estimate of the true population. If you have a small sample you may wish to consider reporting adjusted R^2 is better than normal R^2 value (Pallant, 2001). The F statistic value (P-alpha) is 45.776 which is significant at 1% (0.000). There is statistically significant contribution as indicated by the Sig. F change value (0.000). This reveals that the model one is fit for this study going by F statistic rule of fitness. The model is only fit for study if the significance of F statistic value is less than 0.005 ($p < 0.005$) contributing to the prediction of the dependent variable (Pallant, 2001). But, the Durbin Watson (DW) value is 1.904 which is an evidence of relative serial correlation. If the value of DW is less than one (1) as rough rule of thumb, there may be cause for alarm. This means there are dual standards of measuring the model fitness. Looking at the model fitness, the model is fit for this study.

From the investigation, members' income and period of contribution have positive effect on investment which is significant at 1% and 5% respectively. However, members' educational qualification, savings and credits have positive effect on investment which is not significant. Thus, we reject the hypothesis H_0 relating to members' income and period of contribution while we accept H_0 relating to gender, educational qualification, members savings and members credits because no sufficient reason for rejection.

4.2 Major Findings

The correlation result reveals that social capital variables like gender, educational qualification, income, savings, period of contribution and credits have significant positive relationship with investment of members in RoSCAs. Also the regression results tell us that social capital variables like income and period of contribution have positive effect on investment at 1% and 5% significance level respectively. We therefore, reject the null hypothesis relating to members' income and period of contribution of social capital because the results are different from hypothesis H_0 which stated that social capital has no significant effect on investment. This means members' income and period of contribution will significantly increase with investment level. The significant increase in members' income and period of contribution has positive effect on investment. However, we accept H_0 relating to gender, educational qualification, members savings and members credits of social capital because there is no sufficient reason for rejection. Thus, this result is new and contributes to the body of knowledge by revealing that social capital variable like income has significant positive relationship and effect on investment in RoSCAs of Sabon-Gari Market-Zaria, Kaduna state, Nigeria.

5. Conclusion and Recommendation

5.1 Conclusion

This Rotational Savings and Credit Associations (RoSCAs) is one of the informal financial institutions that affect members' investments. The RoSCAs operations and activities are tailored toward members benefits. The executive members have to formulate policies on social capital factors like income and periods of contribution that have positive effect on investment at 1% and 5% significant level in RoSCAs-Sabon Gari market-Zaria. This is because these policies have implication on income and investment of members in the RoSCAs. This result contradicts the finding of Adofu *et al.* (2010) that discovers that savings has insignificant positive effect on investment in Kogi State-Nigeria. Though, different researchers used different proxies to measure social capital variables in their models which this study adapted the heterogeneity index differ after slight modifications.

5.2 Recommendations

Thus, the study recommends that policy makers, government and informal financial industry should encourage traders and people to partake in the formulation of RoSCAs in markets and non market places. Also, government should formulate policies that will improve the standard of living of low income group of people in order to boost their income level in Nigeria. This is because social capital variable like income has significant positive effect on investment in RoSCAs - Sobon Gari market, Zaria- Kaduna state, Nigeria.

5.3 Suggestions for Further Studies

The study of social capital and investment of members in RoSCAs used Sobon-Gari market, Kaduna state of Nigeria as a study area. The findings of this study cannot be used to generalize in wider society. Therefore, further studies should include wider coverage and more study variables that have implication to cooperative associations particularly RoSCAs.

References

- Abdul-Yekeen, MA 2012, An Empirical Study of Contributions of RoSCAs to Economics Development in Ilorin Metropolis, *European journal*, Vol. 8, No.19, pp. 267-277.
- Adepoju, AA and Oni, OA 2012, Investigating Endogeneity Effects of Social Capital on Household Welfare in Nigeria: A Control Function Approach. *Quarterly Journal of International Agriculture*, Vol. 51, No. 1, pp. 73-96.
- Adofu, I, Antai, E and Alabi, O, 2010, Informal Savings Mobilization and Investment in Kogi state. *Continental Journal of Social Sciences*, Vol. 1, pp. 7 – 17.
- Akabari, H 2014, *Contributor to Competitive Strategy Theory in Information System*. Available online at <http://kalyan-city.blogspot.com>
- Akrani, G 2011, “*Meaning of Investment*”. Available online at <http://kalyan-city.blogspot.com>
- Akrami, M 2014, “The Adashi Codinator of We Save for Futue Problem - Rotational Savings and Credit Association (RoSCAs)”. Sabon Gari Market, Zaria, Kaduna State Nigeria.
- Akinleye, O and Majekodunmi, A 2012, Determinants of Social Capital and Sundry Variables on Household Well being in South West, Nigeria. *International Journal of Advanced Research in Management and Social Sciences*, Vol. 1, No. 2, pp.18-34,
- Alexander, A K, Omonona, BT, Oluwatayo, IB and Ogunleye, OO 2013, Social Capital and Welfare among Farming Households in Ekiti State, Nigeria. *Journal of Biology, Agriculture and Healthcare*, Vol. 3, No.5, pp.115-130.
- Anand, J, Ortega, G, Raccanello, K and Vega, P 2010, ROSCAs as a Health Prevention Financing Mechanism. *Revista de Análisis de Economía, Comercio Y Negocios Internacionales*.
- Araoye, M.O 2004, *Research Methodology with Statistics for Health and Social Sciences*. First Edition, Nathadex Publishers, Odo-Okun, Ilorin.
- Baiyegunhi, LJS 2013, Rural households' social capital and welfare: A case study of Msinga, KwaZulu-Natal, South Africa. *Journal of Agriculture and Rural Development in the Tropics and Subtropics*, Vol. 114, No. 2, pp. 123–132.
- Bisrat, A, Kostas, K and Feng, L 2012, Are there Financial Benefit to Join RoSCAs? Empirical Evidence of Equb in Ethiopia. *Procedia Economics and Finance Journal*, Vol. 1, pp. 229 – 238.
- Cavana, R. Y, Dalahaye, B and Sekaran, U 2001, *Applied Research: Qualitative and quantitative methods*, John Wiley and sons, Australia.
- Dagnelie, O and LeMay-Boucher, P 2008, “RoSCA Participation in Benin: a Commitment Issue”.
- Ebi, B, Okon, EN and Ubi, P 2013, Social Capital and Economic Growth Opportunities: A Case Study of Rural Households in Obudu, Cross River State, Nigeria. *Global Journal of Human Social Science Economics*, Vol. 13, No. 2, pp. 13-16.
- Eklund, J.E 2013, “Theories of Investment: A Theoretical Review with Empirical Applications”. Working Papers Series.
- Feibel, B.J 2003, “*Investment Performance Measurement*”. New York: Wiley.

- Hassett, K.A 2008, "What is Investment?" In the Concise Encyclopedia for Economics.
- Hanny, P 2014, "The Research Assistant". Rotational Savings and Credit Association (RoSCAs) in Sabon Gari, Market-Zaria, Kaduna State, Nigeria.
- Ibrahim, S.I and Mohammed, A 2009, Housing Quality Study in Barkin Saleh, Minna, Niger State. *Lapai International Journal of Management and Social Science (LIJOMASS)*, Vol. 2, No.1, pp.119-134.
- Investopedia 2015, "The Term Investment". Available online at <http://www.investopedia.com>
- Jhinghan, M.L 2003, *Advanced Economic Theory*, Twelve Edition, Vrinda Publications, New Delhi. India
- Johannes, T.A 2009, "Does Social Capital Determine Poverty?" Evidence from Cameroon Household Survey. Prepared for Presentation at the GLOBELICS (Global Network for Economics of Learning, Innovation, and Competence Building Systems) 2009 Conference: UNU-MERIT (Maastricht, the Netherlands) CRES, UCAD (Dakar, Senegal) October 6-8, 2009, pp. 1-25.
- Kedir, A.M, Disney, R and Dasgupta, I 2012, "Why use RoSCAs when you can use Bank. Theory and Evidence from Ethiopia".
- Kirori, G.N 2013, The Impacts of Instrumented Social Capital on Poverty Status in Rural Kenya. *African Journal of Social Sciences*, Vol. 3, No. 3, pp.1-17.
- Lasagni, A and Lollo, E 2011, Participation in ROSCAs in Indonesia: New Empirical Evidence on Social Capital.
- Magali, J.J 2013, Factors Affecting Credit Default Risks For Rural Savings and Credits Cooperative Societies (SACCOS) in Tanzania. *European Journal of Business and Management*, Vol. 5, No. 32, pp. 60 - 73.
- Ogbadu, E.E 2009, Profitability Through Effective Management of Material. *Journal of Economics and International Finance*, Vol. 1, No. 4, pp.099-1055.
- Ogunrinola, O 2011, Social Capital and Earnings Distribution among Female Micro-Entrepreneurs in Rural Nigeria, *African Journal of Economic and Management Studies*, Vol. 2, No.1, pp. 94-113.
- Olalekan, O.S and Emmanuel, O.S 2012, Social Capital and Rural Households Welfare in Surulere Local Government Area, Oyo State, Nigeria. *Interdisciplinary Journal of Contemporary Research in Business*, Vol. 3, No. 11, pp. 388-40.
- Oluyombo, O.O 2012, *Cooperative Finance in a Developing Economy*. First Edition, Published by **Soma** Prints Limited, Adebowale House 5, Shipeolu Street, Onipanlu, Lagos-Nigeria.
- Pallant, J 2001, *SPSS Survival Manual. A Step by Step Guide to Data Analysis Using Statistical Package for Social Science*. First Edition, Open University Press McGraw-Hill Education McGraw-Hill House Shoppenhangers Road Maidenhead Berkshire. Available at www.openup.co.uk/spss.
- Putnam, R 2004, "Social Capital Theory". Available online at theory.byu.edu/wiki/Social_capital_theory
- Sabatini, F 2013, "Social capital and Economic Development". Lectures for the Master in Non-Farm Activities and Rural Development in Developing Countries, University of Rome La Sapienza.
- Yusuf, S.A 2008, Social Capital and Household Welfare in Kwara State, Nigeria. *Journal Human Economics* Vol. 23, No. 3, pp.219-229.