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Determinants of Net Savings Deposits held in Savings and Credit Cooperatives (SACCO's) in Uganda

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Savings mobilization is important for rural households in Uganda. This study looked at household net savings deposits in Savings and credit cooperatives (SACCO's) from individual's passbooks. Net savings were then measured as the difference between deposits and withdrawals. Weighted least squares were used to determine the factors influencing net deposits. Results indicate that deposits decreased with increase in distance to the SACCO, education levels, wealth, trade activities, and having secondary school dependants. Deposits increased with income, access to credit. SACCO's are well suited for poor households in terms of products and services offered. There was a higher propensity to save out of transitory income.

Key words: SACCO's (Savings and Credit Cooperatives), savings.

INTRODUCTION

Background

There has been significant growth of the microfinance sector over the last 10 years, both in numbers of micro-finance institutions and the number of clients that they serve. Most of the microfinance institutions are registered as either NGO's with the NGO Board, as companies under the company's act, or as savings and credit co-operatives with the ministry of tourism, trade and industry. In addition, there are numerous non-registered and registered moneylenders and other formal and informal savings and credit associations. The micro-finance sector has been able to grow fast so as to cater for the financial needs of micro enterprises that the larger financial institutions have traditionally failed to address. This sector is characterized by smaller loans with very short repayment cycles, and most of its services are concentrated in urban and peri-urban centers with limited penetration into the rural areas (MFPED, 2000).

Traditional banks have an urban bias due to the high costs of rural intermediation arising from small trans-actions with dispersed clientele and poor infrastructure.

The microfinance sector in Uganda has evolved to provide a savings facility that is convenient for rural financial intermediation in terms of accessibility and nature of services offered. (MicroSave Africa Report, 2000).

Due to the rationing behavior of traditional formal banks, various Microfinance Institutions (MFI's) have cropped up in Uganda that provide savings and/or credit facilities to micro and small-scale business people whose financial needs are very small. In Uganda these MFI's include Savings and Credit Cooperatives (SACCO's) initiated under the Uganda Cooperative Alliance (UCA) with the aim of providing quality financial services on the basis of self-reliance through mobilization and management of their own financial activities. This was a response to governments call for the strategy of providing affordable financial services to economically poor people living in rural areas. Through member owned and managed institutions where members mobilized own resources through savings, share capital and membership fees. These SACCO's are managed by the board which is led by a chairman and they hire the staff. There several committees within the institution like the loans committee which approves loans to members. This would allow them to create their own resources through savings, start their own financial services institutions operating on cooperative principals and participate in the management of their own local financial markets. UCA was formed in 1961 as the apex of the cooperative movement mandated for advocacy, spokesman ship and member education. Its roles broadened to include catalyst for change and mobiliser of resources. It's mission "The attainment of an economically viable, efficient, sustainable and member sensitive cooperative movement" and many of the services UCA was supposed to provide were provided by government. However in the early 90's, government divested itself from the cooperative movement and stopped providing education, training, audit and other services. It was left with only registration and de-registration of cooperatives and audit as a last resort. Government's withdrawal left a huge vacuum, and UCA was faced with a huge challenge of filling the vacuum.

UCA re-organised its self and the cooperative movement as a whole to meet the challenges arising from government policy. This led to the formation of SACCO's. A government policy was adopted where SACCO's were to be used as conduits for agricultural credit in the coffee and cotton sector. As a result, many SACCO's were formed out of the need to access that money. So the foundation for the growth of strong and self reliant SACCO's did not exist and they received the final blow when government divested its self from them. In 1994, a survey was carried out and it was found out that 70% of these SACCO's were dormant or dead and the apex body, Uganda Cooperative Savings and Credit Union (UCSCU) was equally helpless. Under Community Empowerment through Co-operative Financial Services

(CECFIS) project, UCA has demonstrated that rural communities when properly mobilized, sensitized, guided and supported with the basic startup kit, coupled with capacity building services, can start successful SACCO's and can access affordable financial services on a sustainable basis. The SACCO's also having a big potential of becoming safe, sound and sustainable financial institutions (UCA, 2005).

UCA established SACCO's as a response to Governments call to provide affordable financial services to economically poor people living in rural areas. These SACCO's were established under the (CECFIS) project. Members were able to create their own resources through savings (membership/entrance fees, share capital contributions and voluntary savings deposits), start their own financial institutions operating on cooperative principals and participate in the management of these financial markets. In addition the objective was to increase rural communities' power to create, participate in and manage their own local financial markets.

Tremendous progress was made because the SACCO model was adopted and used by the rural people who needed micro finance services most. Rural people have accessed credit through their SACCO's which provides a forum for mobilization of the rural people for the purpose of education, sensitization on development programmes, identifying their economic needs, developing strategies for meeting them and training and empowerment in leadership and governance issues.

SACCO achievements have been tremendous (UCA, 2005) yet so far no studies have been done in Uganda to quantitatively analyse the factors that influence net savings deposits in the SACCO's.

In most societies, people are highly conscious of money and assets and continually strive to maximize them in one way or the other. One of the means to retain money or to accumulate wealth is through savings. Domestic savings are common around the world. They constitute an important mechanism for basic survival of poor people since they provide security for the family. Savings also provide an important source for a country's future investment, which is essential for its economic development and growth (Surina, 2007). Domestic savings can be considered as whatever people can put away after meeting their basic living expenses, 'Saving is income not spent, or deferred consumption (Dell'Amore, 1983).

People save for different reasons, some save to better their conditions in the future by investing the savings into higher earning assets. It is universally observed that rural households in developing countries depend largely on precautionary saving to insure against various income risks (Lim and Townsend, 1998; Morduch, 2006). Others save in order to deal with unforeseen problems in the future (Rutherford, 1999). Yet others may save so as to meet social obligations, such as weddings, funerals, dowry and/or recurrent cultural festivities and to enhance

their social standing in the community. This is consistent with Platteau (2000), who shows that there exist strong social norms in West Africa which necessitate that an individual provides support to friends and relatives if she is asked for money and has cash on hand. People may also save to start a business venture. It is widely acknowledged that personal savings constitute the major single source of private investment in the informal sector.

People do not necessarily save through the formal financial institutions; they may save money or valuables at home, put them in the custody of friends, relatives, shopkeepers and pawnbrokers. Informal savings are prone to theft, disease and pests (Zeller et al., 1997; Mutenyo, 2005). Cash at hand is divisible and highly liquid but has drawbacks of yielding no interest, easily borrowed by relatives or friends and readily consumed or lost.

Abstaining from consumption or deferring consumption is one way of saving. Savings may be kept in cash or by acquiring and accumulating assets. Such assets can take the form of livestock, grain stores or jewellery. It is not always easy to classify a certain expenditure or non-expenditure as savings, consumption or investment. Gold earrings for instance can be considered simultaneously as savings and consumption. A marginal farmer may save to buy an oxen and a plough, but these savings can at the same time be considered as an investment if he is then in a position to sharecrop more land. These examples demonstrate that the concept of savings cannot be defined unequivocally and can be interpreted in different ways (FACET BV, 2000).

Savings can also be maintained in a groups setting, whereby capital savings are mobilised through deposits in a Savings and Credit Cooperatives (SACCO's). Savings in SACCO's provide an important source of money that can be pooled together and which members can borrow. Members can also save by acquiring assets in form of land, buildings and cash deposits in the SACCO's. However it's not clear what influences members' decisions to save. This study was conducted with the aim of improving credit services within the banana farming system.

This study was undertaken to:

(i) Determine savings and credit characteristics of participants and non-participants in SACCO programmes
(ii) Determine the factors that influence household's savings behavior.

METHODOLOGY

Methods

This study was undertaken in the districts of Apac, Mbarara, Rukungiri, Masaka, Kamuli, Tororo in the SACCO's of Chawente, Ebirungi Biruga Omututu, Lwengo microfinance, Kamuli Twisanya and Mukuju, respectively.

Sampling strategy

A list of SACCO's was acquired from the from the umbrella association UCA (Uganda Cooperative Alliance). The SACCO's were clustered into 4 regions (Central, Western, Eastern and Northern); from the list SACCO's that had been in operation for 3 or more years were selected. Two SACCO's were randomly selected from each cluster, a total of 8 SACCO's were selected. However, eighty (80) participants were selected from each area where the SACCO was located including SACCO participants and non participants comprising peasant farmers, teachers, traders/business people, and nurses. During the interviews, the respondents were asked whether they belonged to the SACCO or not and on this basis, respondents were disaggregated into participants involved in SACCO related transactions and non-participants who had not carried out any transactions with SACCO's or any other financial institution. The total sample size of valid questionnaires of the households that responded was 460.

Primary household data was collected using a structured questionnaire, which was pre-tested and administered through direct interviews of the respondents on a range of characteristics. The variables included household head and spouse, age, sex, level of education, work experience, number of dependents, occupations, total assets (physical and financial assets), sources of liquidity (loans taken, gifts in kind or in cash and sales, loans given out, income of the head of household, spouse's gross income) and interaction with informal and formal financial institutions. At the time that this study was done, the exchange rate of the Uganda shilling to the dollar was $1:Ush1600

Analytical Methods

Level of net savings deposits

A household's level of net savings deposits at a particular institution is a function of several factors. These factors include the household's permanent and transitory incomes, the level of transaction costs (as measured by distance from the residence to the district capital), the household's education level, value of household wealth proxied by the livestock index, a dummy for dependants in secondary schools, occupation dummies and the availability of credit.[1] Thus, the net savings deposit function for the ith head of household can be generally specified as:

$$SD = \alpha_0 + \alpha_1 Y^P + \alpha_2 Y^T + \alpha_3\,DIST + \alpha_4\,EDUC + \alpha_5\,LIVEINDEX + \alpha_6\,LOANEE + \alpha_7\,SECONDARY + \alpha_8\,WAGER + \alpha_9\,TRADER + u \quad (1)$$

where SD is net savings deposits in 2005, Y^P is permanent income, α_1 is the marginal propensity to save out of permanent income, Y^T is transitory income,[2] α_2 is the marginal propensity to save out of transitory income, DIST is the distance in km to the SACCO, EDUC is the number of years of formal education, LIVEINDEX is an index of livestock holdings with livestock holdings summed using a weight of 1, 0.4 and 0.1 for cattle; sheep, goats and pigs; and poultry respectively, LOANEE is a dummy variable (=1 if household has ever received credit from the SACCO and 0 otherwise), WAGER and TRADER are defined as 1 if individual earns any income from wage labour or trade activity respectively and 0 otherwise.

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[1] Bhatt (1989) maintains that the attractiveness of a deposit instrument depends among other things, on its degree of liquidity, transaction costs and type or level of risk.
[2] We assume the permanent and transitory components of income are stochastically independent (i.e., their distributions are uncorrelated).

Following Sandmo (1969, 1970), Cass and Stiglitz (1972), Levhari (1972), Gersovitz (1989), and Kimball (1990), we impose the conditions that $0 \leq \beta_1 \leq 1$; $0 \leq \beta_2 \leq 1$, and that $\beta_1 < \beta_2$, where β_i was Vector of parameters to be estimated.

We observed that the interest rates paid on savings deposits do not vary much in cross-section, so they are not specified as a predictor of the level of household savings deposits. However, it is important to note also that the rates on small deposits in almost all banks have been consistently negative in real terms during this period.[3]

Net savings function estimation

The net savings deposit function was estimated using Weighted Least Squares (WLS) regression. The dependent variable is the amount of net savings deposits held in the SACCO in 2005. Similarly, households with credit facilities available to them from the institution take the value LOANEE = 1, and others = 0.

Permanent income and transitory incomes are included in the financial savings function. The Permanent income of a household in this study is proxied by the predicted values of a modified earnings function. It is expected that the propensity to save out of long run income is less than that of transitory income. That is, the income of the ith individual

$$Y_t^P = x_t^P b + e_t^P \qquad (2)$$

Where x_t^P is a vector of household specific variables (e.g., wealth, gender, level of education, type of occupation, location, work experience or age of the household head).[4] b is a vector of parameters. A distinction is made also between the error component e^P and transitory income. Transitory income is not regarded as the residual (error) term in 2, rather it is obtained separately.[5] Transitory income is proxied as the income received from relatives and friends in 2005 (remittances). Households are asked about their primary and secondary occupations in terms of steady or reliable income and transient jobs. Permanent income is defined as expected income for the given year. The unobserved component of permanent income (as distinguished from transitory income) is the residual that is obtained by estimating the earnings function as shown in 2. This residual is termed unexplained income. It is not assumed that the residual is transitory income. Moreover, an analysis of the residual indicates that it is not significantly correlated with the measure of transitory income.

RESULTS

Socio-demographic characteristics of participants and non-participants in SACCO programmes. Table 1a and 1b shows the socio-demographic characteristics of

participants and non-participants in SACCO programmes. Results show that about 34% of households in the sample were male with no statistically significant difference in the gender composition of the sample by participation or urban rural divide. On average, 84% of all individuals sampled were married. The results indicate that the average age of the respondents was 40.31 years for the respondents and 37.52 years for the spouses. A further analysis shows that non-participating urban households were significantly younger (33.61) than their rural coun-terparts (37.67 years) at (P<0.05) and not surprisingly their spouses were significantly much younger than the spouses of the rural respondents.

Total work experience for the respondents on average was 18.28 years. The only deviation from the average was among rural and urban participants. On average rural participants had more total years of work experience (21.39 years) against 18.25 years for the urban respon-dents. However, this difference was only significant at p<0.1. The respondent's average total work experience was 16.13 years with a statistically significant difference among rural and urban participants. Experience at current job for the spouses on average was 13.25 years. There was no significant difference for the rural and urban non participants well as there was a significant difference for the rural and urban participants at (P<0.1).

The average distance from the residence to the SACCO was 23.33 kms. As expected the distance from residences designated as rural areas to the SACCO were statistically greater than those from urban locations for both participants and non-participants at (P<0.05). The average number of visits to the SACCO for the participants was 4.51. There was a significant difference in the number of visits for the rural and urban participants at (P<0.1)

The total number of dependants was 5.6 closer to the national average of 5 dependants per household. This indicates the data was on average representative at least in terms of dependency. At least two of the dependants were in primary, 1 in nursery, 1 in a secondary school and 2 were either out of school or not yet in school with no significant differences in this composition across households. The mean household expenses were 2,521,925. The urban non-participants spent more than the rural non-participants did at 2,480,909 and 2,043,292 respectively with the difference in expenditure significant at (P<0.1). The expense on education constituted about 47% of all household expenses.

On average, 44% of all those sampled households had received an informal loan amounting to 348,393 shillings in 2005. The urban non-participants received significantly larger loan amounts than the rural non-participants averaging 400,304.30 and 174,069.80 shillings respec-tively with the difference significant at (P<0.05). Also the urban non participants gave out more amounts of loan than the rural non participants of 222,520 as compared to 89,675.93 respectively with a significant difference at (P<0.05).

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[3] The average annual rate of inflation for 1992-1998 was 7.4 percent. The average nominal rate of interest paid by commercial banks on savings deposits was 3.24 percent for the same period.

[4] See Mincer (1974); Musgrove (1979); Bhalla (1980); and Paxson (1990; 1992). Include years of publications

[5] Musgrove (1979) states that permanent income can be known only with an error that is conceptually different from transitory income. He maintains that the fraction of permanent income that is unexplained, i.e., $e_t^{\ P}$ in (2), is consumed exactly like the explained part, and that it has an error component only for the researcher, since the consumer knows what his/her permanent income is. The unexplained income, $e_t^{\ P}$, is just as much a part of permanent income as the explained part. We proxy the explained part of household

Table 1a. Socio-demographic characteristics of sampled households of non-participants

Variable	All Households N=460	Non-Participants		T-Value
		Rural N=166	Urban N=44	
Age of HH	40.31 (12.63)	37.67 (12.26)	33.61 (9.65)	2.03**
Age of spouse	37.52 (12.73)	34.73 (12.57)	28.94 (6.38)	2.67***
Education of household head (years)	8.91 (3.66)	8.41 (3.74)	8.59 (3.84)	-0.26
Education level of the spouse	8.03 (3.30)	7.54 (3.14)	8.30 (3.51)	-1.2
Total experience for the HH	18.28 (11.44)	16.29 (12.07)	13.50 (8.70)	1.34
Experience of HH at current job	12.83 (10.53)	11.64 (10.56)	8.71 (6.88)	1.6
Spouse's total experience (years),	16.13 (10.75)	13.58 (10.59)	10.57 (6.60)	1.61
Spouse's experience at current job	13.25 (10.23)	10.70 (9.07)	8.70 (6.11)	1.19
Distance to SACCO in kms	23.33 (13.15)	25.78 (14.02)	20.11 (12.31)	2.44**
Number of visits made to the district town per month	4.51 (5.64)	4.40 (5.76)	5.97 (7.34)	-1.38
Total number of dependants	5.63 (3.77)	4.70 (3.30)	3.95 (2.87)	1.36
Number of dependants in secondary schools	1.94 (1.28)	1.70 (0.87)	1.92 (0.79)	-0.79
Received informal loan	0.44 (0.50)	0.52 (0.50)	0.52 (0.51)	-0.06
Informal loan size received (ushs),	348,393.30 (1,437,852.00)	174,069.80 (252,094.40)	400,304.30 (472,863.00)	-3.10**
Size of informal loan given out	227,465.40 (767,586.40)	89,675.93 (113,968.40)	222,520.00 (312,094.40)	-2.77**
Total household income	1,989,831 (2,477,845)	6,910,329 (14,400,000)	13,200,000 (29,100,000)	-2.19**
Household assets ushs	14,200,000 (33,100,000)	0.39 (0.49)	0.39 (0.49)	2.01**

Source: Survey data
Figures in parentheses are standard deviations
*, **, *** refers to significance at the 10, 5 and 1 % levels respectively

Table 1b. Socio-demographic characteristics of sampled households participants in SACCO programmes

Variable	All Households N=460	Participants		T-value
		Rural N=158	Urban N=92	
Age of HH	40.31 (12.63)	44.64 (12.82)	40.86 (11.70)	2.32
Age of spouse	37.52 (12.73)	42.59 (13.28)	37.78 (10.75)	2.74
Education of household head (years)	8.91 (3.66)	9.02 (3.80)	9.73 (3.06)	-1.41
Education level of the spouse	8.03 (3.30)	7.78 (3.40)	9.16 (3.08)	-2.78
Total experience for the HH	18.28 (11.44)	21.39 (11.14)	18.52 (10.74)	1.86*
Experience of HH at current job	12.83 (10.53)	14.74 (10.95)	13.87 (10.72)	0.54

Table 1b. cont'd

Spouse's Total experience (years),	16.13 (10.75)	20.02 (10.67)	16.43 (10.57)	2.31**
Spouse's experience at current job	13.25 (10.23)	16.96 (10.97)	13.79 (10.50)	1.92*
Distance to SACCO in kms	23.33 (13.15)	23.46 (12.93)	20.17 (11.36)	2.01**
Number of visits made to the district town per month	4.51 (5.64)	3.78 (4.50)	5.27 (6.14)	-2.02*
Total number of dependants	5.63 (3.77)	6.70 (3.92)	6.28 (4.00)	0.81
Number of dependants in secondary schools	1.94 (1.28)	1.91 (1.23)	2.25 (1.75)	-1.41
Received informal loan	0.44 (0.50)	0.37 (0.48)	0.37 (0.49)	-0.04
Informal loan size received (ushs),	348,393.30(1,437,852.00)	551,897.50(2,622,364.00)	407,058.80(426,085.30)	0.32
Size of informal loan given out	227,465.40 (767,586.40)	311,043.50(1,205,113.00)	276,043.20(373,914.80)	0.17
Total household income	1,989,831.00(2,477,845.00)	1,847,713.00(2,249,786.00)	2,937,752.00(3,072,339.00)	-2.30**
Household assets ushs	14,200,000.00(33,100,000.00)	17,500,000.00(45,900,000.00)	21,900,000.00(30,300,000.00)	-0.82

Source: Survey data
Figures in parentheses are standard deviations
*, **, *** refers to significance at the 10, 5 and 1 % levels respectively

Savings and credit characteristics of participants in SACCO programmes

Participants had held SACCO membership for at least 3 years, and each had purchased an average of 5 shares with no significant difference between rural and urban respondents (Table 2). However, despite the fact that members with the SACCO had access to a savings facility, only 54% of all participants had made any deposits on their accounts since joining the SACCO. Urban dwellers (63%), were more likely to save than rural dwellers (48%) (p<0.05). On average, participants were net de-savers, withdrawing 47,778 shillings more than they had deposited on their accounts in 2005. However, there was no significant difference in the level of savings between locations.

The loans offered had no grace period, loan maturity was at least one month, payback period was six months, and frequency of payback was monthly with deposits made on ones account and the monthly deductions made automatically by the SACCO.

Of those participating in SACCO'S, only 40% had accessed credit from the SACCO. SACCO's exhibit credit rationing behavior with participants receiving loan amounts less than what they had applied for. The total average amount of loan applied for and received by the urban and rural participants (1,100,930/= and 925,348/=) and was significantly higher than that applied for and received by the rural participants (569,642.90/=, and 516,410.70) respectively at (p<0.05). On average, the payback period was 6 months. There was no significant difference in payback time because the payback period was fixed by the SACCO's.

This also applies to the number of sureties who were two and no significant difference between urban and rural participants.

The value of security for rural participants (4,078,182/=), was greater than that of the urban participants (2,742,093/=).

Though this difference was not significant, the high value for the rural participants is explained by the kind of security offered which includes land, plantations and cattle which always have a higher value.

Household income sources

An evaluation of household income shows that non participants have higher incomes than participants (Table 3) in SACCO's, and that rural households less income than their urban counterparts with mean differences significant at (P<0.05).

Results further show an equal distribution of households across income sources. However,

Table 2. Savings and credit characteristic of SACCO Participants in 2005. Figures shown in parentheses are standard deviations

Characteristic	Rural participants N=158	Urban participants N=92	All participants N=250	T-value
Belongs to a SACCO (%)			0.54(0.50)	
Length of time in SACCO (years)	3.53(1.53)	3.32(1.61)	3.46(1.59)	1.0360
Number of shares held	4.90 (4.21)	5.83 (5.99)	5.30 (5.06)	-0.8970
Holds savings in SACCO (%)	0.48(0.50)	0.63(0.49)	0.54(0.50)	-2.2997**
Opening balance in 2005 (ushs)	166,738.60(311,488.20)	1,049,028.00(4,118,748.00)	674,723.30 (3,126,947.00)	-0.7965
Total deposits made in 2005 (ushs)	1,328,157.00(2,674,721.00)	2,219,361.00(4,887,853.00)	1,707,118.00(3,790,515.00)	-1.3479
Total withdraws in 2005	1,269,564.00(2,557,869.00)	2,010,156.00(3,905,137.00)	1,571,506.00(3,178,355.00)	-1.3364
Total net deposits (ushs)	-35,657.08(94,927.04)	-65,125.83(106,292.50)	-47,778.98(144,200.50)	0.2044
Borrowed from SACCO in 2005 (%)	0.35(0.48)	0.47(0.50)	0.40(0.49)	-1.7651
Amount of loan applied for (ushs)	569,642.90(577,332.30)	1,100,930.00(1,658,596.00)	800,404.00(1,198,372.00)	-2.2304**
Amount of loan received (ushs)	516,410.70(532,728.10)	925,348.80(1,247,430.00)	694,030.30(931,490.00)	-2.2075**
Number of times borrowed	1.20(0.40)	1.30(0.46)	1.24(0.43)	1.2155
Payback period (months)	5.76(1.96)	5.55(2.01)	5.67(1.98)	0.5376
Number of sureties	2.36(1.48)	2.16(1.00)	2.28(1.29)	0.7629
Value of securities (ushs)	4,078,182.00(14,100,000.00)	2,742,093.00(3,286,528.00)	3,491,939.00(10,800,000.00)	0.6059

*, **, *** refers to significance at the 10, 5 and 1 % levels respectively

Table 3. Household income sources figures in parentheses are standard deviations

Factor	All households (n=460)	Non-participants Rural (n=166)	Non-participants Urban (n=44)	T-value	Participants Rural (n=158)	Participants Urban (n=92)	T-value
Salary	0.39 (0.49)	0.10 (0.30)	0.16 (0.37)	-0.01	0.39(0.49)	0.42(0.50)	-0.59
Spouse earns	0.12 (0.33)	0.83 (0.38)	0.73 (0.45)	-1.05	0.12(0.33)	0.15(0.36)	-0.72
Agriculture	0.83 (0.37)	0.19 (0.40)	0.18 (0.39)	1.46	0.89(0.32)	0.80(0.40)	1.78*
Wage labour	0.14 (0.35)	0.52 (0.50)	0.70 (0.46)	0.16	0.11(0.32)	0.08(0.27)	0.96
Trade	0.60 (0.49)	0.16 (0.36)	0.23 (0.42)	-2.23**	0.61(0.49)	0.71(0.46)	-1.58
Rent	0.20 (0.40)	0.11 (0.31)	0.14 (0.35)	-1.10	0.18(0.38)	0.30(0.46)	-2.34**
Remittances	0.12 (0.33)	0.00 (0.00)	0.00 (0.00)	-0.52	0.16(0.37)	0.09(0.28)	1.61
Donations	0.0	0.00 (0.00)	0.00 (0.00)	-	0.01(0.11)	0.00(0.00)	1.08

*, **, *** refers to significance at the 10, 5 and 1 % levels respectively

Table 4. Benefits from SACCO Membership

Factor	Overall sample n=250		Rural households n=158		Urban households n=92	
	Freq	%	Freq	%	Freq	%
Get loans	163	65.0	106	67	57	62.0
Savings facility	140	56.0	88	56	52	56.0
Access to the SACCO	45	18.0	17	16	19	21.0
Social interaction	38	15.0	32	20	7	8.0
Earn interest on savings	8	3.0	5	3.0	2	2.0
Learn new ideas	3	1.0	2	1.0	1	1.0
Creates employment	3	1.0	2	1.0	2	2.0

non-participating urban households were more likely to engage in trade than their rural counterparts.

Benefits from SACCO Membership

All SACCO's included in this survey were under the SACCO's Umbrella organization, UCA and hence the minimum requirements for eligibility to access credit were similar (Table 4). The major conditions to be fulfilled included having security that was offered as collateral, sureties, an LC1 letter confirming residential status. Furthermore, in order to qualify for a loan, one had to have paid up membership fees since these SACCO's only serve members. In order to access the loan a member was expected to apply for it using official application forms. Loan approval would be done by the loans committee which on average would sit once a month. A member also had to have savings on his account (forced savings) equivalent to 5% of the loan amount required. These loans acquired by the members had no grace period whoever borrowed money had to begin paying back immediately after one month from the time the loan was acquired. It always took a member one month to access the loan from the time it was approved by the loans committee. Other conditions included having paid up the previous loan and having a clean record of not defaulting (only for members that had acquired loans before from the SACCO). In comparison with the Micro Finance institutions (MFI's) there was no need to pay membership fees, buying shares but loan repayment was immediately after one week from getting the loan there after deductions for both the principal and interest being paid on a weekly basis.

Despite the challenges faced by members in the SACCO's (like high interest rates) their participation in SACCO programmes had accrued benefits. Members indicated that they had benefited mainly by having access to loans (65%) and a savings facility (56%). 15% of the participants indicated that they were able to interact socially, especially the rural participants. These social gatherings included the annual general meetings

and other routine meetings as members. This was also supported by the fact that some of the SACCO staff were friendly this in the long run encouraged member partici-pation in the programmes.

Determinants of net savings deposits

Results in Table 5 shows that the level of net savings deposits in a SACCO is affected negatively with each unit increase in the distance from the residence to the district capital; by a household's education and wealth holdings level; engaging in trade activity and by having depen-dants in secondary schools. Conversely, net savings deposits increase with the level of permanent and transitory incomes of the household, increase in access to credit and involvement in wage income activities.

Permanent income plays a positive role in the determination of the level of net savings deposits held by households at financial institutions; and it is highly significant. The estimated coefficient indicates that the marginal propensity to save out of permanent income (in the form of savings deposits) is quite low at 0.018.

The distance to district capital variable explains a significant proportion of the variation in the level of net savings deposits across households.

Households are likely to increase their deposits with a particular financial institution if it offers facilities to borrow that are attractive to them. Households with credit facilities available to them consistently held higher net savings deposits than those which did not have credit facilities.

The effect of education on net savings was negative and highly significant at ($P<0.01$), implying that as participants become more educated, the less they were likely to save with the SACCO. They end up requiring more credit for bigger investments and transferring their accounts to bigger financial institutions that could offer more credit than SACCO's with limited funds.

Having dependants in secondary schools in relation to no secondary school dependants decreased the level of household net deposits by 60,000 Ushs. Net savings

Table 5. Estimated Net Savings (both forced and voluntary savings) Deposit Function for Households with Savings Deposit Accounts

Factor	Net savings deposits (Ushs)	
	Coefficient	T-value
Predicted income (Ushs)	0.018***	3.14
Transitory Income (Ushs)	0.052***	3.19
Unexplained income (Ushs)	0.006	1.49
Education level (years)	-11,811.400***	-3.84
Livestock index	-3,191.847**	-2.03
Distance to district capital (km)	-3,252.285***	-2.77
Has Secondary school dependants(dummy)	-60,602.480***	-2.79
Earns wage income (wager dummy)	111,991.900**	2.43
Earns trade income (trader dummy)	-36,246.580*	-1.73
Accessed credit (loanee)	51,585.710***	2.80
Mbarara district dummy	-49,834.770	-1.21
Tororo district dummy	-66,524.320**	-2.07
Kamuli district dummy	-88,851.470***	-2.88
Masaka district dummy	11,001.880	0.23
_cons	197,925.500***	4.42
n	94	
F(14, 79)	6.34***	
Adj R2	0.4458	

*, **, *** Significant at 10, 5 and 1% respectively

deposits were affected negatively by increasing the distance away from the SACCO to the household. Being a trader negatively affected household net savings.

Savings deposits decreased by 36,246 Shillings as households engaged in business related activities.

DISCUSSION

In this study household income shows that non participants had higher incomes than participants in SACCO'S and that rural household were significantly poorer than their urban counterparts. This finding may indicate that SACCO'S are a significant poverty outreach tool with participation in SACCO'S highest amongst the poor than the rich. Furthermore, national statistics also indicate that low income levels generally plague rural areas with close to 96% of the chronically poor living in rural areas.

Members in the SACCO's have accrued benefits in terms of improved access to loans and savings. This also supports the fact that some of the major reasons why they participated were to save and borrow. Zeller et al. (2001) has shown that placement of traditional financial institutions and microfinance institutions follow an urban bias which increases transaction costs for rural households and reduces their integration into the monetary economy. SACCO'S hence provide a means to fill a gap in financial services accessibility.

Permanent   income   plays   a   positive role in the determination of the level of net savings deposits held by households at financial institutions, this was also found out by (Wang, 1995). The estimated coefficient indicates that the marginal propensity, of the studied population, to save out of permanent income is quite low. The implication is that permanent income has not played an important role in the formation of household net savings deposits in Uganda. This could be due to the fact that these deposit accounts have earned relatively low rates of return in the past. Dynan et al (2004) finds a strong positive relationship between saving rates and lifetime income and a weaker but still positive relationship between the marginal propensity to save and lifetime income. As a consequence, most households are not driven by the desire to earn interest on these deposits. Rather, they use them for safekeeping, to manage their money prudently, and where possible to obtain credit. In contrast, the marginal propensity to save in the form of savings deposits out of transitory income is 0.052. When taken together, the coefficients on the permanent and transitory income variables suggest that households will increase their savings if either their permanent or transitory incomes increase, Based on Dynan et al (2004) evidence suggests that the *marginal* propensity to save is greater for higher-income households than for lower-income households yet, those savings will not necessarily translate into investments in financial assets.[6]

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[6] The marginal propensity to save out of permanent income in all assets (physical

The distance to district capital variable explains a significant proportion of the variation in the level of net savings deposits across households. Individuals who reside close to district capitals consistently hold higher net savings deposits than those who are not in close proximity. Thus, transaction costs play a role in the level of net savings deposits held by households. The lower the transaction costs involved, the higher is the level of net savings deposits held by households. Muhumuza (2007) in his study amongst other reasons for failure of credit programmes were high transaction costs.

Households are likely to increase their deposits with a particular financial institution if it offers facilities to borrow that are attractive to them. The coefficient on the loan (LOANEE) variable indicates that households with credit facilities available to them consistently hold higher net savings deposits than those who do not have credit facilities available. Thomas (2012) his study states that saving is the key benefit that a member gets from the organization because a member is enabled to get a loan

The effect of education on net savings was negative and highly significant. As the participants become more educated the less they save as they end up requiring more credit for bigger investments hence transfer their accounts to bigger financial institutions which can offer more in terms of credit than the SACCO with limited funds. Many of the educated in the rural areas were salary earners or public servants who normally get their salaries from the bigger micro finance institutions hence they tend to shift their savings elsewhere. Furthermore, members participated to earn interest and dividends and yet some SACCO'S were not offering interest on savings and dividends on shares. The more educated are also more likely to expect a return on their savings and will consequently save less in an institution where the benefits are not tangible. The effect of a rise in education level is similar to that of an increase in the index of livestock holdings. Net savings deposits in SACCO'S decrease with a rise in a household's wealth. Wealthier households also need access to more financial instruments that may not be available in a SACCO.

Having dependants in secondary schools in relation to no secondary school dependants decreased the level of household net deposits by 60,000 Ushs and the effect is significant at $P<0.01$. It appears that, the more the dependants in secondary level, the less the net deposits because much of the savings are used for paying fees. Hence although households with secondary school dependants are more likely to participate and save in SACCO'S, their participation and savings behavior may be driven by a desire to access credit to meet school expenses rather than the need to access a facility to grow

their savings. The kind of savings made in the SACCO involves both voluntary and forced savings and the members hold one account in the SACCO that caters for both the loan acquired and the savings made. In the process members are forced to deposit a given amount in the bank before they access the loan. The voluntary savings keep on being drained as its being used to offset the loan to cater for the money borrowed leading to the negative sign.

Net savings deposits were affected negatively by increasing the distance away from the SACCO to the household and was significant at ($P<0.05$). This was attributed to the fact that as the distance from the capital increased, the level of savings reduces, because this increased the cost of savings through increased transport costs, it also requires time to move from farm to the SACCO and since the distance would be grate members would be hesitant to move to the institution.

Being a trader negatively affected the household net savings. Savings deposits decrease by 36,246 Shillings as households engage in business related activities. The reason is that being business oriented, the more they became deeply involved in business the more they ploughed back the money into the trade hence having less savings. Mutenyo (2005), shows that traders save a significant amount of money in form of business items consequently reducing on the level of financial deposits held.

CONCLUSIONS AND RECOMMENDATIONS

Institutional access is related to the availability of credit facilities to depositors. We find that access to credit has a positive and significant influence on the level of net savings deposits held by households. Households with credit facilities available to them are more inclined to save than those without. We attribute this to a combination of a voluntary increase in the level of savings (given the lending institution offers facilities to borrow that are attractive to them) and arrangements whereby a lender requires savings as a form of collateral.

We find that household income is a significant determinant of the level of household net savings deposits in SACCO'S. While the rates of return paid on savings deposits in Uganda have been negative in real terms for quite some time, households continue to hold savings deposits for the purpose of keeping their money safe and to exercise prudent management of their finances, rather than to earn interest. Due to the low marginal propensities to save out of permanent and transitory incomes in the form of net savings deposits (0.02 and 0.05, respectively), increases in household income alone are not likely to increase the level of financial assets held by households. Rather, savings deposits will be more effectively increased by efforts to increase financial intermediation by offering savings instruments that bear positive real rates of return, keep the deposits safe, and do so at

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and financial) was estimated to be 0.43 to 0.48 for urban households, 0.20 to 0.27 for rural households. The marginal propensity to save out of transitory income in all assets has been estimated to be 0.68 to 0.72 for urban households, 0.38 to 0.42 for rural households. Urban households include middle income merchants (Kiiza, 1999).

relatively low cost to the depositor. There is also a need to determine how SACCO'S can be empowered to develop and provide products that suit agricultural purposes at a profit as these remains a gap in rural financial intermediation.

Conflict of Interests

The author(s) have not declared any conflict of interests.

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REFERENCES

Bhalla SS (1980). Measurement of Permanent Income and Its Application to Savings Behavior, J. Political Econ. 88:722-743.

Bhatt VV (1989). Resource Mobilization in Developing Countries: Financial Institutions and Policies, Economic Development Institute of the World Bank, Working Paper No. E 1527, 340/002.

Cass D, Stiglitz J (1972). Risk aversion and Wealth Effects on Portfolios with Many Assets," Rev. Econ. Stud. 39(3):331-54.

Dell'Amore G (1983). "Household Propensity to Save", in Arnaldo Mauri (ed.), Mobilization of Household Savings, a Tool for Development, Finafrica, Milan.

FACET BV (2000). Savings Mobilisation Supporting Small Enterprises, the Netherlands http://www.facetbv.nl.

Gersovitz M (1989). Saving and Development, Research Program in Development Studies' Working Paper No. 131, The Woodrow Wilson School of Public and International Affairs, Princeton University.

Dynan KE, Jonathan S, Stephen PZ (2004). Do the Rich Save More?. J. Political Econ. 112(2):397-444 by The University of Chicago.

Kiiza B (1999). "Household Savings Mobilization in Uganda: An Integrated Portfolio-Savings Approach", Unpublished Ph.D. Dissertation, University of Minnesota, USA.

Kimball MS (1990). "Precautionary Saving and the Marginal Propensity to Consume," NBER Working Papers 3403, National Bureau of Economic Research, Inc.

Levhari D (1972). "Optimal Savings and Portfolio Choice under Uncertainty," Symposium on Mathematical Methods in Investment and Finance ed. by Giorgio Szego and Karl Shell. North-Holland Pub. Co. Amsterdam.

Lim Y, Townsend R (1998). "General Equilibrium Models of Financial Systems: Theory and Measurement in Village Economies." Rev. Econ. Dyn. 1:59-118.

MFPED, MAAIF (2000). Ministry of Agriculture, Animal industries and Fisheries and Ministry of Finance Planning and Economic Development. Plan for Modernisation of Agriculture. Eradicating Poverty in Uganda, Government Strategy and Operational Framework.

MicroSave Africa Report (2000). "Promoting secure, high-quality savings services for poor people." A UNDP/DFID Initiative report to promote savings in Africa, Centre for Microfinance, Kampala, Uganda (May 31st 2000).

Mincer J (1974). Schooling, Experience and Earnings. New York: Columbia University Press for NBER.

Morduch J (2006). "Micro-Insurance: The Next Revolution? " In Understanding Poverty, edited by A. Banerjee, R. Benabou, and D. Mookherjee. Oxford: Oxford University Press.

Muhumuza W (2007): Credit and reduction of poverty in Uganda, structural adjustment Reforms in context. Fountain publishers, Kampala.

Musgrove PA (1979). "Permanent Income and Consumption in Urban South America", American Economic Review, 69: 355-68.

Mutenyo F (2005). "Implications of Access to Microfinance Institutions on household savings" Unpublished MSc Thesis, Makerere University.

Paxson C (1990),"Borrowing Constraints and Portfolio Choice," Q. J. Econ. 535-543.

Paxson CH (1992). "Using Weather Variability to Estimate the Response of Savings to Transitory Income in Thailand," Am. Econ. Rev. 82:15-33.

Platteau, Jean-Philippe (2000). Institutions, Social Norms, and Economic Development. Amsterdam: Harwood Academic Publishers.

Rutherford S (1999). The poor and their money: an essay about financial services for poor people, Manchester, UK: Institute of Development Policy Management [http://www.microfinancegateway.org/content/article/detail/1737]

Sandmo A (1970). "The Effects of Uncertainty on Savings Decisions," Rev. Economic Studies 37:353-360.

Sandmo A (1969). "Capital Risk, Consumption and Portfolio Choice," Econom. 37:586-599.

Surina PA (2007) "Savings of People As the Source of Collective Investments." State Governance. Electronic Bulletin. Issue #10. March 2007.

Thomas Kimeli Cheruiyot, Catherine Muganda Kimeli, Susan MO (2012). Effect of Savings and Credit Cooperative Societies Strategies on Members Savings Mobilization in Nairobi, Kenya. Int. J. Bus. Commerce 1(11):40-63 (ISSN: 2225-2436)

Uganda Cooperative Alliance (2005). "Annual Report for the year 2004/2005" Kampala Uganda.

Wang Yan (1995). "Permanent Income and Wealth Accumulation: A Cross-Sectional Study of Chinese Urban and Rural Households". Econ. Dev. Cult. Change pp.523-550.

Zeller M, Schrieder G, Von Braun J, Heidhues F (1997). Rural Finance for Food Security for the Poor Implications for Research and Policy. Food Policy Rev. 4.