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## Micro Analysis of the Determinants of Household Savings: Empirical Evidence from Uganda

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### **Abstract:**

*The study examined the micro level determinants of household saving in Uganda using household level cross sectional data obtained from Uganda National Household Survey (2009/2010) conducted by Uganda Bureau of Statistics. Prior to the Ordinary Least Squares estimation, the study conducted preliminary analysis involving descriptive statistics and a correlation matrix. The results from the OLS estimation reveal that, Income was the main determinant explaining the cross-sectional variation of household savings in Uganda. The results show that household income, education of household head, spouse education, gender, age, and household location (living in urban areas) are factors positively and significantly influencing household saving. On the other hand, household size, marital status age square of household head and regional differences negatively and significantly influence household saving. Considering the income factor, one way to improve the saving level is by implementing policies that improve productivity and income of households. The government should also increase its funding of the education sector not only to primary (UPE) and secondary (USE) but also tertiary institutions but also to the adult education program that has been running for decades.*

**Keywords:** Household, savings, OLS, cross sectional, income

### **1. Background and Introduction**

It is interesting to try to understand human beings' ways of economic thinking in modern societies. However, it is possible to realize this aim only if the approach of economic theory is based on the individual's or household perspective. Thus, the development of a microeconomic theory based on individual choices and preferences is essential for understanding of household saving behaviour. Although, the individual is the focus of the analysis, it is also necessary to acknowledge the fact that the household is the most important aspect of life for many individuals.

Economic theory such as the Absolute Income Hypothesis by Keynes (1936), postulates that households' saving is the difference between households' income and consumption of goods and services. From the classical times, development economics has long recognized the importance of mobilization of household savings as a key component of domestic savings in developed and developing countries in order to achieve economic growth and development. It is purported that household savings, by facilitating the process of capital accumulation, ensures that economic growth and development are realized (Rostow, 1960). For instance, in the Harrod -Domar model, household savings and incremental capital –output ration jointly determine the economic growth of the economy (Afronia, 2011). However, this does not mean that raising household and domestic savings is enough to achieve economic growth and development. There was still need to investigate the determinants of household savings which provides the background motivation for this study with emphasis on Uganda. According to the World Bank (2010), a higher household savings as a component of gross domestic savings was an engine to growth in many countries in the past decades, since they financed higher rates of investment as well. Thus, policies to promote household savings have a central role to play in driving growth via investment in Sub- Saharan Africa. The question which arises is that "what determines household savings"? This question was answered by this study with evidence from Uganda. Also, the fact that The Sub-Saharan African countries (Uganda inclusive) have for a long time been characterized by a worrisome problem of low savings rate motivated the study with specific focus on Uganda using a nationally representative UNHS (2009/2010) data set.

### **2. Objective of the Study**

The objective of the study was to investigate the determinants of household savings in Uganda.

### 3. Literature Reviews

Theoretically the study was guided by Absolute income hypothesis, Relative Income Hypothesis, Permanent Income Hypothesis Life Cycle Hypothesis and Permanent Income Hypothesis. Empirically the study was guided by economic theories and previous researches

Income is a major determinant of household savings (Newman et al., 2008) and all these studies found positive effect of income of Household savings (Newman et al., 2008 in Vietnam, Kulikov et al., 2007 in Estonia, Qiuxia (2004) in China Loayza et al., 2000, Amimo et al., 2003 in rural Mozambique)

Age of the household head is another determinant of household savings according to life cycle saving. Various arguments have been presented regarding the sign of the coefficient of age in household savings function. Some studies have found a positive relationship between age and saving. These include; Fernandez et al, 2009 from eight countries in Europe; Duck, 2006; Browning and Crossley, 2001; Kibet et al. 2009; Demery et al. (2006) in UK and the study revealed that the saving rate of the elderly were positive and rising with age up to some point beyond which it starts to fall. However, in many developing countries like Uganda this may not be the case. Many people do not save for old age as majority of the old people are found to be with their relatives. This is evidenced by the existence of extended families in most homes of developing countries just like Harris et al. (2002) However, once income is controlled for, the young many save more than their elderly counterparts which is in line with the findings of Chowa, 2006 in Uganda; Bloom et al. 2000 in East Asian; Attanasio (2000)

Previous studies have examined the effects of education on savings (Laiglesia and Morrison, 2008). Education is a factor which is closely tied to the wealth accumulation and its influence over income is direct. Over a long period of time, education corrects the savings of different individuals and its effect depends also on the region and economic development within that area. Morriset and Revoredo (1995) found that for each point increase in education, the savings rate increase with 0.37%. Indirectly, education has the ability to modify the behaviour of households. Rogg (2000 in Ecuador, Paraguay; Baruhanga, 2000 in Uganda; Attanasio et al. 2000; Yilmazer, 2010 of Turkey

In relation to the above, influences household savings in Uganda. Spring (2009) found out that, in Mexico as households move from one level of education to another, their expenditures increase there by consequently reducing their savings. However, the relationship between education and savings can either be negative or positive depending on the perspective on which it is looked at. For example, if a household head increases his education level say from secondary to university, his expenditures will increase there by reducing savings in the short run. In the long run the relationship between education and savings can be positive in that after a household attains higher education, its income is expected to increase hence increasing savings.

Of the literature consulted for this study, food shortage Shocks were identified as determinants of household savings. Kim (2010) studied the Determinants of Personal Saving in the U.S. and found out that once such shocks occurs savings will reduce. This therefore results into a decline in household savings.

Sex/Gender of the household head has been identified as another important determinant of household. There are mixed results regarding sex and household savings. While some studies indicate that female headed households save more than their counterparts, others have found the reverse. For example, Floro et al. (2002) found out that females save more than males. They argued that females in developing countries have lighter responsibilities hence having higher chances of savings. This is in line with the findings of Zahir et al. (2010) in China However Gerrans and Clark-Murphy (2004) consider that there is a close relationship between savings and gender. Using a survey of members of the Superannuation Scheme for Australian Universities, they have concluded that females are more likely to have a higher risk tolerance and a bigger chance of not saving compared to males. This is because males have better chances of earning more than females.

Empirical research found that marital status has influence on household savings behaviour. Married persons are more likely to be more interested about their wealth and savings (Li et al., 1996; Fernandez et al., 2009) than the unmarried ones. However, Man-Yee and Heather (2010), have taken the discussion further and consider the fact that savings are usually "shared" between partners, without any difference between being married or not. They argue that Investments, on the other hand, are being held independently by each couple member. Additionally, savings tend to influence also the psychological well-being of the partner, where investments or debt held by one partner do not seem to have an influence on the behaviour of the other partner. Gina (2008) in studying the performance of rural households in SSA using data from the asset building project of Masindi district identified sex, education level, marital status and the type of work done as determinants of household savings. It was found out that the savings of the married household were greater and doubling those of household who were not married. These studies linked the increased savings from the married households to good and improved domestic partnership which increases co-operation, sharing of knowledge about the need to save among others.

Residence determines household savings in Uganda. Hafeez et al. (2010) studied Multan saving determinants and residence turned out to be insignificant factor and has positive sign which reflects increase in saving level when household head is living in urban areas. Normally people living in urban areas can earn and save more due to much earning opportunities but in Multan district, urban region of residence does not have any effect on household savings because it is big city but not like Lahore, Islamabad and Karachi that have vast opportunities due to big industries, tourist places, hotels, parks, modern cultures. These results are consistent with Orbeta (2006) and Fazoranti (2007 in Nigeria). This could be due to the fact that there are better employment opportunities in cities and towns compared to villages

Household size was identified in literature to determine household savings. Khalek et al. (2009) found out that saving rates were dependent on household size. Household size just like the number of unemployed and gender were negatively affecting household savings. This was attribute on the fact that, if a new member joins a household, the general consumption expenditures are likely to increase and if income remains unchanged then the household savings will reduce.

Region of residence determines household savings in Uganda. The Ncaer (1993) study on mobilization of household savings for housing is based on a larger-scale household survey of households spread over 40 sample towns from 13 major states of India. The study focuses on the aspects of zonal/regional differences in savings. He found out that savings were high, significant and positive for central business states/provinces compared other states. Actually, savings are expected to be high in central regions only that it is important to note that these savings vary within the region and also depends on whether a household head has employment to earn income. A household head might be living in central region but once unemployed, he might not save.

#### 4. Theoretical Framework

The theoretical background discussed in this section attempts to explain how households save from their income. Interesting and very extensive studies on determinants of household savings owe its beginnings to the earlier Keynesian (1936) theory commonly referred to as the absolute income hypothesis (AIH). Keynes's analysis followed the traditional theory of demand in which savings was viewed as a luxury good. In this study, the Keynesian saving function was utilized where the difference between the household income ( $Y$ ) and consumption expenditure ( $C$ ) was considered as household saving.  $S = Y - C$  where  $S$  is a continuous variable for the natural log of household savings expressed in Ugandan shillings. This variable only captured savings in cash form. Other forms of savings were ignored by the study because of data problem.  $Y$  is Total income, a continuous variable for the income that a household head earned expressed in natural logarithm. This included income from different sources such as paid employment, sale of goods and livestock among others. Income was measured in Ugandan shillings just like household savings.  $C$  is total household consumption expenditure. (expenditures on food, public utilities like water and electricity among others).

$S = \beta_0 + \beta_1 Y$  Where,  $\beta_0$  is the autonomous savings which measures the amount of dis-savings by the households and  $\beta_1 =$  marginal propensity to save and the slope of the Keynesian saving function. It is assumed that  $\beta_0 < 0$ , and  $0 < \beta_1 < 1$ , so that as the level of income rises, the average propensity to save will also increase (Mikesell, 2001). However, if the intercept is positive or the average propensity to save is negative, then average propensity to save will decrease with increase in income (Zinser, 2001).

In other wards Keynesian theory postulates a positive relationship between marginal propensity to save and household savings. This qualifies equation (2) to be the most popular version of the absolute income hypothesis. Also, according to the LCH, Households dis-save while young, have high savings at middle age as income outstrips consumption and later dis-save at old age. The age must differ across different income levels hence the nonlinear saving function is

$$S = \beta_0 + \beta_1 Y + \beta_2 age + \beta_3 Sqage$$

Economic theories put primary emphasis on income and age as predictors of saving and asset accumulation (Modigliani & Ando, 1957). However, it is important to note that, income (major/ key variable) and age plus its square are not enough to explain the saving behaviour of Ugandan households. There must be other variables that work with them so as to determine the total household savings. Such variables include: education of the household head, education of the spouse, expenditure on education by the household, shock of no food to feed the household members, sex of the household head, marital status of the household head, residential status of the household head, household size, and region of residence.

$$S = \beta_0 + \beta_1 Y + \beta_2 age + \beta_3 Sqage + Z$$

#### 5. Empirical Model

The general saving function specified in equation (6) was adopted from Kibet et al. (2009) in the study about the determinants of household savings by small farmers, entrepreneurs and teachers in rural areas of Kenya.

$$\ln S_i = \beta_0 + \beta_1 \ln Y_i + \beta_2 \ln age_i + \beta_3 \ln Sqage_i + \beta_4 educ_i + \beta_5 seduc_i + \beta_6 \ln exedu_i + \beta_7 fdshk_i + \beta_8 sex_i + \beta_9 marst_i + \beta_{10} res_i + \beta_{11} hsi_z_i + \beta_{12} reg_i + \varepsilon_i$$

Where  $\varepsilon_i$  is stochastic random term which is assumed to be normally distributed with zero mean and constant variance (white noise)

## 6. Estimation Procedure and Econometric Analysis

The analysis of the household saving determinants was carried out in two steps that is, preliminary analysis and econometric analysis.

Preliminary analysis involved the descriptive statistics and a correlation matrix. Descriptive statistics are important because they give a general overview of the data used in the study. Descriptive statistics explains the mean, minimum and maximum values of the variables. The correlation matrix was used to examine the correlation among independent variables. This was carried out in an attempt to avoid spurious regression that might lead to Multicollinearity. The econometric analysis involved using Stata 11 software package to estimate three models using Ordinary Least Square Technique. The purpose of estimating separate equations was to avoid multicollinearity among the variables. The values and signs of the coefficients from the estimated models help in answering the hypotheses stated in chapter one.

OLS estimation technique was employed because the dependent variable under study (Household savings) was continuous. Using the UNHS (2009/2010) data set, three models were estimated in the study. In all the models, income of the household head was considered to be the major /key variable. The first model ran put emphasis on expenditure on education of the household head alongside other variables. The second model put emphasis on education by the household head alongside other explanatory variables and the third model put emphasis on spouse's education level alongside other regressors.

## 7. Diagnostic Tests

In any regression analysis, one may not be sure as to whether or not the results obtained represent the realities on the ground. In order to mitigate such uncertainty, it is important to use the estimation and testing tools by way of making sensible and accurate judgments of the results obtained. This was done by examining the signs and magnitude of the coefficients of the regressors. The study also used the R-squared which is a measure of the overall goodness of fit of the regression line. Since this study used cross-sectional data then R-square is expected to be as low as below 0.5. Also, since the data is cross-sectional, the presence of outliers will be a norm than an exception. These would make the coefficients have incorrect signs. All the outliers were identified and dropped.

## 8. Estimation and results

Variable	Mean	Minimum	Maximum
Savings of household head	40411.1	-900	240000
Consumption of household	44199.5	1900	960000
Income of household head	84610.6	1000	1200000
Age of household head	43.303	18	81
Expenditure on education	386329	1500	1000000
Household size	5.311	2	10
Sex of household head: Male	0.793	0	1
Female	0.207	0	1
Location of household head: Urban	0.123	0	1
Rural	0.877	0	1
Marital status of household head: Married	0.749	0	1
Unmarried	0.251	0	1
Region: Central	0.347	0	1
East	0.383	0	1
West	0.180	0	1
North	0.090	0	1
Shock of no food for the household: Never experience	0.363	0	1
Experience a shock	0.637	0	1
Education of household head: No education	0.252	0	1
Primary education	0.402	0	1
Secondary education	0.207	0	1

Variable	Mean	Minimum	Maximum
Post-secondary education	0.138	0	1
Education of the spouse No education	0.383	0	1
Primary education	0.309	0	1
Secondary education	0.209	0	1
Post-secondary education	0.100	0	1

Table 1: Descriptive statistics of the selected variables

Source: Computed by the author using Stata 11

The mean of household head saving expressed in Uganda shillings as 40411.1, minimum value of Uganda shillings - 900, and maximum value of Uganda shillings 240,000 per month. The mean consumption expenditure expressed in Ugandan shillings is 44,199.52 with the minimum expenditure being 1,900 while the maximum consumption expenditure was 960000 Ugandan shillings per month. The mean of household head income is Ugandan shillings 84,610.62, minimum value of Ugandan shillings 1,000 and maximum value of Ugandan shillings 1,200,000. As regards expenditure on education, the mean was 386,329.1, with the minimum of 1500 and maximum being 1000000 Ugandan shillings. The mean age of household head is 43 years which indicates that many of the household heads were in active service and able to save more. The youngest household head was 18 years with the oldest being 81 years old.

The share of households headed by males is 79.3 percent compared to 20.7 percent headed by females. This implies that majority of the household heads are male. In fact, the proportion of males is almost our times that of females. The mean size of household is 5 members with a minimum of 2 members and maximum of 10 members. 12.3 percent of the household heads were living in urban and those living in rural areas amounted to 87.66 percent. This implies that the majority of the households live in rural areas. 74.9 percent were married household heads while 25.1 percent were unmarried. This indicates that the majority of the household heads were married. On average, 36.3 percent households that never experienced a shock of not having food to feed the family members while 63.7 percent of the households had experienced food shortage. This shows that the majority of the households never had food to feed the family members. The table further indicates that 25.2 percent of the household heads had zero education, 4.02 percent had primary education, and 20.7 percent had secondary education while only 13.8 percent had attained post-secondary education.

## 9. Correlation Matrix

Correlation matrix illustrates bi-variate relationship between two independent variables and also independent – dependent variables. This matrix helps detect the existence of multicollinearity in regression models. The problem of multicollinearity arises when two or more variables in multiple regressions are highly correlated. The concern is that the coefficient changes erratically in response to a small change in the model or data. As a rule of thumb, if the coefficient of correlation among the explanatory variables is equal or more than 0.80, it indicates severe problem of Multicollinearity (Gujarat, 2003).

Variable	S	Y	age	Sex	res	mar	reg	exed	fdsk	Hsiz	educ	seduc
S	1.00											
Y	0.54	1.00										
age	-0.01	-0.08	1.00									
Sex	-0.01	-0.01	0.04	1.00								
res	0.01	0.12	0.05	0.01	1.00							
mar	0.07	-0.02	0.11	-0.12	0.05	1.00						
reg	0.01	-0.02	0.01	-0.02	-0.04	0.02	1.00					
exed	0.01	-0.02	-0.03	0.10	0.07	0.15	-0.02	1.00				
fdsk	0.02	-0.02	0.02	0.03	-0.03	0.00	-0.01	0.01	1.00			
Hsiz	-0.04	-0.01	0.14	0.12	0.08	0.09	0.05	0.03	0.01	1.00		
educ	0.03	0.01	-0.01	-0.01	-0.01	0.00	-0.01	-0.04	0.15	0.00	1.00	

seduc	0.00	0.02	-0.04	-0.03	0.00	0.03	0.01	-0.02	0.05	0.00	0.70	1.00
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*Table 2: Correlation Matrix for independent Variables  
Source: Computed by the author using State 11*

The above Correlation matrix shows the coefficient of correlation (in absolute terms) among the explanatory variables to be less than 0.80 indicating no problem of Multicollinearity. The absence of Multicollinearity makes the study fit to employ Ordinary Least Square estimation technique. This is because although Autocorrelation may also be problem in regression model, in cross sectional data it is not a serious problem [Greene (1992)] and to avoid heteroscedasticity, the study provided the HCSEs.

The determinant of household savings function in Uganda was estimated using OLS and the results were then presented in table 3.

<b>Variables</b>	<b>Model 1</b>	<b>Model 2</b>	<b>Model 3</b>
Income	0.509 (57.25***)	0.510 (57.29***)	0.510 (57.42***)
Age	0.698 (2.87***)	0.678 (2.78***)	0.690 (2.84***)
Square age	-0.319 (-3.20***)	-0.310 (-3.11***)	-0.315 (-3.16***)
Exp on education	-0.006 (-0.63)	-0.002 (-0.23)	-0.003 (-0.30)
HH size	-0.032 (-2.86***)	-0.032 (-2.90***)	-0.033 (-3.01***)
Marital status: Married	-0.078 (-1.97**)	-0.077 (-1.95**)	-0.075 (-1.91**)
Residence: Urban	0.382 (7.96***)	0.383 (7.98***)	0.387 (8.07***)
Sex: Male	0.126 (3.25***)	0.124 (3.19***)	0.119 (3.06***)
Region: Eastern	-0.078 (-2.12**)	-0.077 (-2.11**)	-0.084 (-2.29**)
Western	-0.185 (-3.15***)	-0.183 (-3.12***)	-0.189 (-3.23***)
Northern	-0.111 (-2.43**)	-0.107 (-2.35**)	-0.112 (-2.45**)
Food shock: Experienced a shock	0.008 0.325	-0.011 (-0.29)	-0.023 (-0.66)
Education of household head: Primary		0.019 (0.440)	
Secondary education		0.134 (2.64***)	
Post-secondary education		0.088 (1.67*)	

Variables	Model 1	Model 2	Model 3
Spouse's education Primary education			0.112 (2.83 <sup>***</sup> )
Secondary education			0.176 (4.04 <sup>***</sup> )
Post-secondary education			0.126 (2.25 <sup>**</sup> )
Constant	2.265 (2.02 <sup>**</sup> )	1.311 (2.04 <sup>**</sup> )	2.574 (1.97 <sup>**</sup> )
Number of Observations	4346	4346	4346
R-Squared	0.454	0.456	0.457
Adj R-Squared	0.453	0.454	0.455
Prob>F	0.000	0.000	0.000

*Table 3: Determinants of household savings (OLS results)*  
*Probabilities in parentheses \*\*\*Significant at 1%, \*\* Significant at 5% \*Significant at 10%*

## 10. Income of the Household Head

Household heads are likely to save more amount of money from their total income. Marginal propensity to save for models one, two and three are respectively found 0.509, 0.510 and 0.510 intimating that one Ugandan shilling rise in total income of household heads leads to about 51 percent increase in household savings holding other factors constant. Results are statistically significant as well at 1 percent level of significance. The study results are in line with the expectations that savings are directly and linearly related to income as stated by the Keynes (1936) in the absolute income hypothesis. These results are also in line with Engelhardt (1996), Maki (2006), Juster et al. (2006), Gonzalez and Ozcan (2008), Chamon and Prasad (2008), Rehman et al. (2010), Negrusa and Orefice (2010)'s findings.

### 10.1. Household Size / Family Size

Family size is found to have strong negative effect on the savings of household heads. Coefficient values of family size in models 1, 2 and 3 are -0.032, -0.032 and -0.033 respectively and statistically significant at 1 percent level of significance suggesting that saving of household heads would lower by about 3 Percent if one new member joins the household holding other factors constant. The main finding of the study was that predictions from a simple life cycle model do well in as much as the household savings is associated with a drop in the household size. This suggested that a reduction in the number of children and other non-working members relative to the working age population alleviated household budget constraints, thereby boosting savings. A higher dependency ratio implies a greater burden of consumption expenditure and hence, the more the allocation of household budget towards consumption expenditure leads to lower saving. Same conclusion is drawn by Chamon and Prasad (2008), Gonzalez and Ozcan (2008), Rehman et al. (2010), Negrusa and Orefice (2010). If family size is much larger households cannot save much amount of money than having small family size.

### 10.2. Dummy variable for the household location/Residence

Household location dummy variable is positive and significant at 1% in all estimated models. The finding entails that urban household heads on average save more than household heads in the rural areas. The estimated coefficients in models 1, 2 and 3 are respective 0.382, 0.383, and 0.387. This means that if a household head changes his residence from rural to urban, his savings will increase by about 38 percent holding other factors constant. Normally people living in urban areas can earn and save more due to much earning vast opportunities. The study results are consistent with Orbata (2006). The findings of this study also concur with findings from a study in Vietnam which found out that possibilities of savings are generally low in rural areas (Newman et al., 2007).

### 10.3. Age and age square of the household head

The study reveals that there is positive significant relationship between age of household head and household head savings. Age squared is negatively related to savings and also has a significant effect. This negative sign with square of age

explains nonlinear relationship between age of household head and household head savings. Age appears to have life cycle effect on saving level of household. As age of household head increases by 1 year, the savings increases by about 69 percent holding other factors constant. Majority of the heads of households were in their middle years as reflected by the mean age of 43 years. According to the life cycle hypothesis, this is the age where consumption is lower than income as the households repay earlier acquired debts and save for old age or to secure their children's future (Ando and Modigliani, 1963; Modigliani and Brumberg, 1954).

To counteract the life cycle effects, the study included the square of age and the resultant coefficient was found to be negative showing that, beyond a certain age, the savings of household head decrease with increase in age of the household head. As household head becomes old, his saving starts declining as evident from our empirical analysis by about 31 percent holding other factors constant. Household heads are unable to save much after a certain age limit. This is because after a certain age limit, they are becoming old and due to reduced potential, they cannot save as much they did in their young or middle age as depicted by square of age. That is, as household head grow old, they have less potential to continue with their current job and hence retire. At this age, they may survive only on their pension or saved income while in the middle age. So, saving level will ultimately decline due to decrease in economic participation of one household member. Similar results are found in earlier studies like Brata (1999). The study results support Life cycle hypothesis just like other studies such as: Engelhardt (1996), Juster et al. (2006), Gonzalez and Ozcan (2008), Rehman et al. (2010), Negrusa and Oreffice (2010)]. Similar results are found in earlier studies like Brata (1999).

#### *10.4. Marital status of the household head*

Marital status is negatively and significantly correlated with the household head savings. Married household heads are less likely to be able to save. The study results are more consistent with the study expected hypothesis. If a household head gets married, his savings will reduce by about 76 percent *ceteris paribus*. The 76 percent is basically increased expenditures due to marriage. After marriage, his daily expenditures will increase; he has to take care of family, his responsibilities towards family will increase, he cannot save much amount of money that he was supposed to save previously. This is in line with the findings of Hafeez (2010).

#### *10.5. Sex of the household head*

The dummy variable for the sex of the household head is statistically significant at 1% in all the three regressions. This means that the average saving levels for households managed by men is 12 percent higher than that of female-headed households. Female heads of households are usually required to share their time between activities that increase the income of the household and those purely for housekeeping (e.g. child care, transporting water, and wood collection). Lihiku (2006) also found the same result for Malawi.

#### *10.6. Education of the household head*

An increased level of formal education was found to be positively contributing to savings of household head. The coefficient (0.019) of household heads that had a primary level of education was positive but statistically insignificant. If a household head with no education attains secondary education, his savings will increase by about 13.4 percent and if he attains post-secondary education then the savings will increase by about 8 percent holding other factors constant. The study results are consistent with studies conducted in Philippines, Vietnam, and Pakistan which found that education level had positive effects on savings as it improves the literacy and numeracy levels that are crucial (Carpenter and Jensen, 2002; Kiiza and Pederson, 2002; Newman et al., 2007; Bendig et al., 2009; Boring, 2010; Ellis et al., 2010).

#### *10.7. Education of the spouse the household head*

Spouse's education plays a pleasant role in family survival. As expected, study finds out positive influence of spouse education level on household head savings. Results are statistically significant indicating that educated spouse can help the household head to save. The dummy variable for primary is positive (0.11) implying that on the average savings for household head with a spouse of primary level of education is 0.11 higher than that of the no education (illiterate) spouse. The dummy variable for secondary is positive (0.17) implying that on the average savings for household head with a spouse of secondary level of education is 0.17 higher than that of the primary education spouse. The dummy variable for post-secondary is positive (0.12) implying that on the average savings for household head with a spouse of post-secondary level of education is 0.12 higher than that of the secondary education spouse. Quartey and Blankson (2004) also found that the levels of savings of household head increased with the level of Region of residence by the household head

The table indicates that region was statistically significant at different levels. In all the three models, the coefficient of region is negative. It can be seen that if a household head leaves central and lives in eastern region his savings will reduce by about 8 percent. However, if the household head vacates central and lives in western region, his savings will reduce by about 9 percent and if he instead migrates from central to northern region, his or her savings will reduce by about 11 percent holding other factors constant.



The study found an insignificant negative relationship between expenditure on education and savings by household head. Also, an insignificant positive relationship was found between Shock of not having food to feed the family members by household head and household savings

The adjusted R-Squared of the study explains about 46 percent variation in household saving. Since this study used cross sectional data set, the adjusted R-Squared is a good measure of fit of the regression line

Overall significance of the saving models can be demonstrated by F – statistic. Probability value of F – statistic gives an idea about the overall significance of the parameter estimates,

#### 10.8. Policy Implications

Just like other developing economies, the levels of domestic savings and investment in Uganda have been very low. One way of meeting the Millennium Development Goals (MDG) targets is to mobilize saving and encourage increased investment for greater productivity and national income.

Outside this study, there are numerous ways of improving household saving in Uganda. With due consideration of the income factor, one way to improve the saving level is by implementing policies that improve productivity and income of households. Institutions that are involved in development projects need to increase their support to improve the business environment of the rural and urban populations. Such decisions include improvement in the transport and communication infrastructure. Also, of importance is increased involvement of the government in services that support economic activities in the rural areas such as, electricity, water, extension services and marketing channels. These will motivate households to increase their production, income and hence saving.

Provision of education by the government is (in the case of the education factor) proved important in improving saving. The government should therefore increase its funding of the education sector not only to primary (UPE), secondary (USE) but also to tertiary institutions (post-secondary education) that has been running for decades. NGOs should also be encouraged to participate in the provision of education especially in training and acquisition of necessary skills for management of finances.

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