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*Motives and Determinants of Savings in Sub – Urban  
Tanzania: A case Study of Mbeya City Council*

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## MOTIVES AND DETERMINANTS OF SAVINGS IN SUB-URBAN TANZANIA: A CASE STUDY OF MBEYA CITY COUNCIL

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### Abstract

*Purpose – The study has analysed the influence of demographic and social-economic attributes on individuals' saving behaviour, particularly in Tanzania sub-urban area; a case study of Mbeya City Council.*

*Research methodology – A survey approach has been used to collect data from a sample of 400 respondents. Then, descriptive analysis and binary logit regression were used to analyse data through SPSS.*

*Findings – The results show that different dispositions of gender, education, number of dependants, membership to social-economic groups and age have different impact on individuals' saving behaviour. Also, precautionary motive is observed to be the predominant reason for people to save across different dispositions of the attributes.*

*Implications –For improved outcomes, financial inclusion initiatives should consider individuals' attributes concurrent with stimulating individuals towards saving for investment related motives.*

*Originality/Value – This study provide additional insight by associating saving motives with individual attributes and it considers dispositions of individual attributes on evaluating saving behaviour.*

**Keywords:** Demographic and Social-Economic Attributes, Logit Model, Motives and Saving

### Introduction

Tanzania, which is a sub-Saharan country, has been pursuing financial inclusion initiatives since 1990s when the country initiated financial sector reforms. In 2013 the country introduced the National Financial Inclusion Framework I, which recorded only about 2% overall increase in financial inclusion rate by 2017 (Finscope Surveys of 2013 and 2017). In 2017 the country introduced Second National Financial Inclusion Framework aiming to increase the formal financial inclusion rate to 75% by 2022 from 65% (BOT, 2020). Despite the ongoing initiatives, the pattern of the country's aggregate saving is not promising to attain the intended target. The World Bank statistics shows in 2017 the aggregate saving as a percentage of GDP was 32.1% while in 2020 it increased to just 34.1%.

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Financial inclusion is beneficial not only to individuals, but also to the nation as a whole. It helps to ensure security of individuals' and national-wise finances, increases access to financing options, increases investment choices and aggregate capital accumulation (Levine & Renelt, 1992; Romel, 2003; UNCTAD, 2021). While the country is emphasizing on financial inclusion to propel individual saving behavior, there is a need to know both, demographic and social economic attributes that influences the willingness of the individuals to save. Browning and Lusard (1996) and Curtis et al., (2015) argue, different clusters of demographic attributes can have different impact of saving behavior. Thus, the financial inclusion initiatives become more meaningful only if they are tailored in accordance with the individual traits that influences saving behavior.

Although several studies have been carried out on saving behavior (Browning & Lusard, 1996, Furnham & Argyle, 1998; Curtis et al., 2015, Mori, 2017, Naito et. al, 2021), studies on behavioral disposition recognizes that general dispositions tend to be poor predictors of behavior in specific situations (Ajzen, 1991). The proposed remedy of the poor predictive validity of attitudes and traits is the decomposition of specific behaviors across situations and occasions (Ajzen, 1991). Despite the emphasis from social and psychological view on recognition of the behavioral dispositions, there is limited number of studies that investigated the influence of specific disposition of demographic profile and social economic attributes on saving decision. Neglecting such specificity could result into generalizing the findings for the whole attribute while in reality, it may not be the case. Different dispositions of the same attribute may have different influence on individuals' saving tendency; the impact may even differ across geographical locations. For instance, young individuals, working age and the elderly people may have different saving behavior; lower and high-income groups might also have different savings behavior and levels of education among different individuals might have different influence and household savings.

Saving behavior in the rural and urban areas are not always homogeneous (Hua & Erreygers, 2019). However, most of the existing studies (Rehman & Faridi, 2011; Curtis et al., 2015; Alkhawaja & Albaity, 2020) investigated the saving behavior at a country level or focused on urban area. Sub-urban areas offer unique dispositions relative urban areas, resulting into different pattern in their savings behavior (De Vos et al., 2020). Sub-urban areas are characterized with limited number of savings channels or financial

institutions (Akpanjar et al., 2013), which may contribute into differences in the saving pattern between sub-urban and urban areas.

Following the reservations of the social and psychological view, this study investigates the influence of the demographic and social-economic attributes on the saving behavior while simultaneously considering the disintegration of the respondents' specific dispositions. The study provides additional insight in the existing body of literature by considering specific demographic and social-economic dispositions and focusing on one-sub-urban area instead of pooling areas with heterogeneous characteristics (i.e. mixing rural, sub-urban, and areas) to avoid the poor behavioral prediction. Specifically, the study examines (1) the association of attributes with motives of saving (2) the influence of the demographic and social economic attributes on the saving behavior in sub-urban Tanzania, the case of Mbeya City Council.

The rest of the paper is organized as follows; section two presents review of literature, section three offers description of data profile, methods and analysis model. The fourth section provides analysis and discussion of the findings while the last section provides conclusion, implication and areas for further studies.

## **2. Review of Literature**

Studies on the determinants of saving behaviour are guided by various theories and their empirical literature is sub-divided into macro and micro economic perspectives (Hua & Erreygers, 2019). The macro-view studies examine the influence of variables such as inflation, interest rate and inflation rates on the saving behaviour, while the micro-view are concentrating on individuals' characteristics as their saving behaviour. The three commonly used theories in describing the saving behaviour are Keynesian Absolute Income Hypothesis, Life Cycle Hypothesis (LCH) and Permanent Income Hypothesis (PIH).

The Life Cycle Hypothesis propounded by Modigliani and Brumberg (1954) identifies savings as a means of smoothing and easing lifetime consumption. It links the age of an individual and saving behaviour. The hypothesis predicts that the age structure of the population has an impact on the saving rate (Canova et al., 2005; Horioka & Wan, 2006; Heckman & Hanna, 2015). Coherently, Obayelu (2018) observed that different age groups have different saving rates in Nigeria. The LCH predict that in the early adulthood there is a negative net savings, because people are expected to borrow due to low income level. In the

working years, which reflects the middle stage of adulthood, people tend to have positive net saving because they are expected to have high income level. Meanwhile, in the late stage of adulthood, which is the retirement age, people tend to dissave.

When Milton Freedman in 1957 extended the life cycle theory into permanent income hypothesis (PIH), the resulting theory differentiates between permanent and transitory income (Canova et al., 2005; Obayelu, 2018). The PIH suggested that both permanent and transitory income have influence on saving behaviour together with the present wealth of an individual. Similarly, Keynesian theory (1936) suggests that absolute disposable income is an important in savings. Keynesian identified eight motives for saving; these motives include precautionary, foresight, calculation, improvement, independence, enterprise, pride to avarice. However, Warneryd (1995) aggregate the saving motives into four classes; the first is 'saving as a continuous habit' which is not related to any specific goal, the second is 'precautionary motive', the third is 'bequest' saving for wellbeing of the family after the death of the head of household and lastly is the saving for 'profit motive' which related to business development.

Despite the above most popular used theories, Beverly and Sherraden (1999) propounded the institutional process theory which describes that individuals' saving behaviour is shaped by the institutional process. In connection to this, there are total of seven institutional dimensions of savings which are access, security, incentives, information, facilitation, limits and expectations (Heckman & Hanna, 2015). The facilitation aspect of theory suitably explains how individuals' membership in the social economic groups facilitates networking and communication. Consequently, it raises awareness about the role of savings in smoothening the level of income over the life time. On the other hand, the psychological view of saving behaviour focuses on the influence of personal traits or personality factors such as an ability to delay gratification, self-control, time preference, locus of control and risk aversion (Canova et al., 2005). In connection to this, the micro-view studies have analysed the influence of social economic factors such as education, income, age, habit and attitudes (Furnham & Argyle, 1998).

While referring to motives for saving, different demographic attributes are observed to have different saving motives (Browning & Lusard, 1996; Curtis et al., 2015). Similarly, Alkhawaja and Albaity (2020) point out, life-style and spending needs coupled with literacy level matters on deciding whether to save or not. Considering this, it is expected that different age groups together with other corresponding demographic

and social-economic attributes have different influence on saving motives. The interest of the elderly people, for instance, will be inclined towards life after retirement while the young population will be towards spending their income to enjoy the current or saving for short term goals. These other social economic attributes include gender, level of education, family size, income source or type of occupation, service charge and credit access (Schunk, 2009; Heckman & Hanna, 2015; Zeng et al., 2019; De Vos et al., 2020).

Regardless of the reasons influencing individual to save, there are inherent benefits for the country because it contributes into resource pool for investment and economic developments (Simlet et al., 2011). In western countries and the US, low individual saving rates is considered to have contributed to the financial crisis of 2008 (Shoham & Malul, 2012). In contrast, China economic progress in the recent three decades is associated with higher individual saving rate that resulted into investment growth (Curtis, 2015). The accumulation of the resources through savings contributes into investment capital profile of a country. In connection to this, any initiative that aims to stimulate individuals saving behaviour towards investment capital creation is better for country's development than just aiming to save for any other motives. This signifies the essence of financial inclusion that aims at enhancing investment capital rather than being sensitive to precautionary motives.

The empirical literature shows existence of mixed results on the impact of demographic and social-economic attributes on individuals' saving behaviour. The impact of education in the saving behaviour, for instance, is inconclusive (Hua & Erreygers, 2019). On the one hand, Hua & Erreygers, (2019) suggest higher education level is associated with low saving rate because people with higher education tend to have higher spending habit. Implying that, people with higher education are more inclined to spend their income to finance education of their children. On the other hand, higher education level is considered to empower decision-making skills and critical thinking (Altunoglu et al., 2022). Consequently, it increases the likelihood of individuals to save. Schunk (2009) and Rehman & Faridi (2011), for instance, observed higher education level is associated with higher saving rate.

Referring to the context of sub-urban areas in Tanzania, our study hypothesizes that an increase in education level will increase the likelihood to save. The sub-urban areas in the country are characterized with many people who have unpredictable income because of mainly engaging in traditional economic activities; hence

higher education level will help them to identify a wise way to save. This is also in line with the argument that people with unstable income source are more likely to save for precautionary motives (Mishra & Chang, 2009). Likewise, studies, have observed financial literacy to have significant positive impact on saving behaviour (Bucher- Koenen and Lusard, 2011, Agnew et al., 2012; Allgood and Walstad, 2016; Brown and Graf, 2013; and Hauff et al., 2020).

The other attribute which commonly associated with the saving behaviour is the number of dependents. However, the empirical literature is mixed on the effect of the number attributes on saving behaviour. On one side, the number of dependents is observed to stretch someone's spending needs as he/she strives to fulfil their basic requirements (Burney and Khan, 1992; Schunk, 2009, Curtis et al., 2015). Consequently, an ability to save is diminished. For example, Horioka & Wan, (2006) indicate that in 1975 China had relatively lower saving rate because of high young age dependence ratio. However, introduction of one child policy in 1979, resulted to high saving rate in 2000s due to decrease in young age dependency ratio. Similarly, the findings of Obayelu (2018) also show saving rate decreases with an increase in household size. On the other side, the number of dependents can be resourceful to the head of the household as long as those dependents are capable of participating in the household subsistence activities (Schunk, 2009; Curtis et al., 2015). This case is more prevalent in developing countries, Tanzania in particular, where household economic activities are a function of all members including dependents. In agricultural activities, for instance, which is the main economic activity in Tanzania it is common to find almost every member in the household takes part. Likewise, Rehman and Faridi, (2011) observed this phenomenon, whereas the dependency rate is found to have positive impact on the household saving behaviour. Thus, we hypothesize that, the number of dependants increases the likelihood of someone to save.

Moreover, the empirical findings have also identified income as a key determinant of saving. The limited scope of economic activities in sub-urban areas offers different nature savings behaviour relative to that of urban due to low level of disposable income (De Vos et al., 2020). Likewise, individual with higher income are more likely to save regularly than those with lower incomes and are more likely to save large proportion of their income (Huggert & Ventura, 2000). The empirical findings from Harris et al. (1999) and Obayelu, (2018) show income level contribute positively in the saving behaviour. Similarly, Rehman and Faridi (2011) observed income to have influence on savings across different income groups; low middle and high income. In contrast, Nwachuku and Egwaikhide (2007) observed slightly different outcome whereby the

growth rate of income is identified to have negative impact on the saving behaviour. This can be explained by the desire of the people to spend the growth component on luxury goods. Similarly, the source of income whether formally employed or not contributes in the saving tendency of an individuals. The study of Schunk (2009) observed individuals who are formally employed have not only a higher saving rate but also a regular saving pattern compared to unemployed individuals.

Studies have also observed gender difference to have impact on saving behaviour. Obayelu, (2018) and Mishra and Chang, (2009), for instance, found that male have higher saving rate compared to females. The reason provided is that male are said to be wealthier than women because of the masculine power over wealth ownership. This is the prevalent feature of many developing countries, including Tanzania, where the head of the households are mainly comprised of males due to patriarchal social structure (Karim, 2014). In contrast, some authors (Warren et al., 2001, Fisher, 2010, Abdelkhalek et al., 2010) suggest females are more likely to save for precautionary a motive which is associated with unstable income and children bearing responsibility. In addition, women are considered to be prominent ingredient in the prosperity of society (Klasen and Santos, 2018).

Considering the context of Tanzania along with the theoretical and empirical background, our study derived five hypotheses. These hypotheses are aligned with key demographic and social-economic attributes, which are summarized as follows: -

H1: The number of dependents increases the likelihood of someone to save

H2: The increase in education levels increases the likelihood to save

H3: The males are more likely to engage in saving compared to females

H4: The influence of age in saving is coherent with life hypothesis cycle

H5: The increase in income increases the likelihood to save

### **3. Methodology**

#### **3.1 Description of the Data**

The study employed a sample size of 400 individuals living in Mbeya City Council, whereby in this study, we categorized it as sub-urban area. The participants were selected from 22 wards out 36 wards. Based on statistics of 2019, the council had a population of 541,000. The target group for the study was anyone who attained the age of majority and participate in any economic activity, whether as an independent

person or as a member of household. Thus, participants were approached on main streets, in front of houses, shops, community centres and organizations.

The structured questionnaire was used to collect data that captured two key aspects. The first is the demographic characteristics of the respondents including age, gender, level of education, marital status, membership in social/economic groups and number of dependents. The second aspect captured respondents' saving profile, including source of income, monthly income, saving status and reasons for savings. The questionnaire was administered to only those respondents who were willing to participate after being informed on the objective of the research. This approach enabled to attain the intended sample effectively, because it did not give a chance for the participants not to respond.

The aspect of saving in the questionnaire captures the saving status as a dependent variable. The study measures the saving status through binary response, whether the respondent is saving or not saving (0 if not saving and 1 if saving). The questionnaire also had a question which enquired the reason for saving as a follow up question and for establishing the motives behind saving. This controlled the possibility of a respondent to give inconsistent answers. For example, if a respondent identified that he/she is not saving, but gave the reason for savings then clarification was sought for proper completion of the questionnaire.

The study uses demographic and social economic indicators as independent variables. As described in literature, including Amari et al (2020), demographic characteristics are associated with propensity to save; this includes gender, age, education, and level of income. However, in this study we have included more variable to describe demographic profile of the respondents which are number of dependents, marital status and membership in social/economic groups which also are believed to have impact on the propensity to save for an individual household, as discussed in the review of literature. Table 1 offers the summary of the definition of the variables.

**Table 1: Definition of Variables**

<b>Definition</b>	<b>Measure</b>
Dependent Variable: Saving Status	The saving status is a dichotomous variable that takes 1 if the respondent is saving and 0 if not

Independent Variables	
Age	This is a continuous variable from young to old age starting to 18years of age to 79 years
Age Category	A categorical variable that take: 1, 2, 3, 4, 5 respectively if the age group is (18–24), (25–39), (40–59) and (60–79)
Gender	The gender is a dichotomous variable that takes 1 if the respondent is a male and 0 if is a female
Monthly Income	This is a continuous variable ranging from 3,000/= to 6,000,000/= TZS
Monthly Income Category	A categorical variable that take: 1, 2, 3, 4 respectively if the respondent earns (3000 - 89999), (90000 - 174999), (175000 - 399999) and (400000 +)
Education level	This is a categorical variable that takes: 1, 2, 3, 4 respectively if the education level group is: no formal education, primary education, secondary education and more than secondary education
Number of Dependents	This is a continuous variable ranging from zero to 25
Marital Status	This is a categorical variable that takes: 1, 2, and 3 respectively if the marital status is: single, married/living together and divorced/widow/separated
Main Income Source	This is a categorical variable that takes: 1, 2, 3, 4 respectively if the main income source is: Peasants, micro enterprise, casual labor/informal employment and formal employment
Reason for Saving	This is a categorical variable that takes: 1, 2, 3, 4 respectively if the reason for saving is: recurrent/school fees, capital accumulation, development of real assets and emergence
Economic/Social Group membership	Group membership is a dichotomous variable that takes 1 if the respondent belongs to a group and 0 doesn't belong to a group

### 3.2 Methods of Analysis and Models

The study employed both, descriptive analysis and logit model. The descriptive analysis provided an overview of the data and it helped to establish the association among variables. The descriptive analysis involved in determining the frequencies of non-continuous variables and establishing the association of attributes dispositions and motives for saving. Meanwhile, the logit model was used to estimate statistical significance of the association between the dependent variable dependent variable and the independent model.

The specification of the logit regression is based on Ulku's (2012) derivation from renowned theories. These theories include the lifecycle hypothesis of Modigliani (1986), the permanent income hypothesis of Milton Friedman (1957) and precautionary saving model by Caballero (1990). The lifecycle model and Friedman's hypothesis suggests that "individual's smoothen consumption over the course of their lives by saving more (less) when their expected income is more (less) than their current income, and precautionary models state that those facing more uncertainties in the future save more" (Ulku, 2012). In line with the theories and considering the variables of interest, we formulated an econometric model of saving behaviour. The purpose of the model is to determine the impact of demographic and social-economic attributes on saving behaviour.

$$SavingStatus = \alpha_0 + \alpha_1 X_{1i} + \alpha_2 X_{2i} + \alpha_3 X_{3i} + \alpha_4 X_{4i} + \alpha_5 X_{5i} + \alpha_6 X_{6i} + \alpha_7 X_{7i} + e_i$$

Whereas; SavingStatus – refers to the dichotomous dependent variable for saving behaviour

$X_{1i}$  to  $X_{7i}$  – refers to standard demographic and socioeconomic attributes (age, gender, marital status, education, income level, number of dependents, membership in social/economic groups as well as saving reason) for a particular respondent.

The study has adopted logistic regression to analyse the determinants of saving since the dependent variable is dichotomous i.e. whether a person is saving or not. The logistic regression is superior over ordinary least square estimation when the dependent variable is binary (Ulku, 2012; Amari et al., 2020). Meanwhile, as identified in the earlier subsection, independent variables include some variables which are binary (gender, marital status and membership to social-economic groups), categorical (age, education, income and income source) and continuous (number of dependants).

### **3 Analysis and discussion of findings**

Our analysis has two sub-sections. The first subsection is descriptive analysis associating the attributes and the saving motives, in response to the objective one. The second subsection offers the analysis and discussion of the logit model findings, in response to objective number two.

#### **3.1 Analysis and discussion of descriptive results**

One of the research objectives was to explore the reasons for saving. Specifically, we analysed the association of the demographic and social-economic attributes with four key motives of saving which are recurrent, capital accumulation, development of real assets and emergence (precautionary). The findings on the descriptive statistics in table 2 shows that out of 285 respondents who were identified to be saving 38.2% were doing so for precautionary motives, 28.1% for development in real asset, 21.1% for recurrent expenditure and 12.6% for capital accumulation. These findings suggest, precautionary motive to be a predominant reason for people to save in the sub-urban. However, the result of the logit model in table 3 provides more insight on the linkage between these attributes and theories.

The result in table 2 shows the percentage of people who saves for precautionary motives decreases with the increase in the level of education, except for those who had no formal education. Similarly, elderly peoples are identified to save more for precautionary reasons relative to young age. The results show, on average 52% of the respondents who were 40 years and above identified to be saving for precautionary compared to an average of 34% of the respondents below 40 years. In terms of gender, out of female respondents 42.6% are observed to save more for precautionary motives compared to those in male respondents who were 35.6%. The descriptive results for marital status, show people who were married or had marriage experience were more saving for precautionary motive (about 38.7%) compared to those who were single (36.4%). For the case of income, the trend shows there is an increase in percentage of people who were saving for precautionary motives as income level increases up to a certain level of income, thereafter there was a decline. This suggests people are more sensitive with uncertainties as their income level increases, but after reaching a certain point of income level they become less worried.

When analysing the development of real asset as a motive behind saving, people without formal education, younger aged group (between 18-24 years), male, single person (either not yet married or divorced) and

high-income earners are observed to have preference compared to other groups in those attributes. While people without formal education prefer saving in real asset because they might have limited exposure to saving options, the younger aged group might prefer to save for buying real asset, for instance mobile phones, that can be easily be converted to cash anytime once they become financially stressed. The preference of male person to save for acquiring real estate reflects their main responsibility as family heads to build up wealth for the household. Similarly, single person their motive to save for acquiring real asset is explainable by their desire to establish themselves before they are engaged with family issues. On the other hand, the motive for higher income earners to save in order to acquire real asset can be an indication of the limited access or non-attractive alternative (financial market) investment options.

**Table 2: Demographic and Social-Economic Attributes Versus Reasons for Saving**

Attributes		REASON FOR SAVING									
		Saving status		Recurrent/ school fees		Capital accumulati on		Developme nt of real asset		Emergence	
Education		Not	Yes	No.	%	No.	%	No.	%	No.	%
		No formal	12	8	1	2.5	0	0	4	5.0	3
	Primary	55	114	25	21.9	10	8.8	28	24.6	51	44.7
	Secondary	26	83	16	19.3	14	16.9	24	28.9	29	34.9
	More than	22	80	18	22.5	12	1.5	24	3.0	26	32.5
	Total	115	285	60	21.1	36	12.6	80	28.1	109	38.2
Age	18–24	16	69	3	4.3	11	15.9	31	44.9	24	34.8
	25–39	62	158	38	24.1	21	13.3	45	28.5	54	34.2
	40–59	32	50	16	32.0	3	6.0	4	8.0	27	54.0
	60–79	5	8	3	37.5	1	12.5	0	0.0	4	50.0
	Total	115	285	60	21.1	36	12.6	80	28.1	109	38.2
Gender	Male	62	177	37	20.9	22	12.4	55	31.1	63	35.6
	Female	53	108	23	21.3	14	13.0	25	23.1	46	42.6
	Total	115	285	60	21.1	36	12.6	80	28.1	109	38.2
Marital	Single	42	99	10	10.1	16	16.2	37	37.4	36	36.4
	Married/livi	64	173	48	27.7	20	11.6	38	22.0	67	38.7
	Divorced/wi	9	13	2	15.4	0	0.0	5	38.5	6	46.2
	Total	115	285	60	21.1	36	12.6	80	28.1	109	38.2
Monthly	3000 -	35	52	14	26.9	3	5.8	15	28.8	20	38.5
	90000 -	36	77	14	18.2	10	13.0	19	24.7	34	44.2
	175000 –	25	74	13	17.6	12	16.2	20	27.0	29	39.2
	400000 +	19	82	19	23.2	11	13.4	26	31.7	26	31.7
	Total	115	285	60	21.1	36	12.6	80	28.1	109	38.2

In terms of recurrent expenditure and business development as motives for saving, the descriptive analysis results in Table 2 shows them to be less prominent across different attributes. However, as mentioned earlier in this subsection, the result of the logit model provides more insight on the linkage between these attributes and theories.

### **3.2 Analysis and discussion of logit results**

As identified earlier in the introduction section, our second objective is to examine the influence of the demographic and social economic attributes on the saving behaviour. The results in table 3 shows that gender, education, number of dependants, membership and age category matters at different degree when it comes to individual's decision on whether to save or not. However, the income level, source of income and marital status have not shown any statistically significant influence on the saving behaviour.

The results for gender, as presented in Table 3, show males are more likely to save for about two (2) times compared to women. These results validate the hypothesis 3 and signify the descriptive analysis whereby large proportion of the male respondents was found to engage in saving compared to females. Considering the role of women in the society, particularly in taking care their families (Klasen & Santos, 2018), our results show there is a need for financial inclusion initiatives to devise appropriate mechanisms to promote women's participation in saving.

The analysis on the influence of education on saving behaviour considered four different education levels, which are no formal education, primary, secondary and more than secondary education. The result shows only the primary level of education was identified to be significant; it has an odd ratio of 0.19 at a p-value of  $< 0.5$ . The primary education has negative significant impact in saving behaviour in comparison with people who have no formal education. This implies that, the likelihood for someone with informal education to save is higher compared with those who have attained primary education level. Meanwhile, other levels of education have not shown any significant impact on saving behaviour with reference to those with informal education. These observations on the impact of education level are inconsistent with wide literature (Agnew et al., 2012; Allgood & Walstad, 2016; Brown & Graf, 2013; Bucher- Koenen & Lusard, 2011; and Hauff et al., 2020), which suggests the likelihood of someone to save increases with an increase in education levels; hence the hypothesis two (2) is rejected at 95% confidence level.

The reasons behind unusual results on education level might be due to differences in the risks appetite and factors that different education levels consider to be relevant for them to save. When saving is for precautionary motives, then people without formal education are more likely to save compared to those with formal education because their education level exposes them to different means of mitigating risks. With the assumption that people without formal education are having unstable income, our results is supported by Mishra and Chang (2009) who found that households with unpredictable income are more likely to save more for precautionary purpose. In connection to this, our descriptive analysis has shown precautionary reason to be the predominant factor for people to save compared to other motives.

**Table 3: Logit regression results**

Independent Variable	A Binary Logit Model of Sub-Urban Household Savings Behaviour				
	Coefficient	Probability Value	Odds Ratio	95% C. (for Odds Ratio)	
				Lower	Upper
Gender	.735	.008	2.086	1.214	3.582
No Formal Education		.040			
Primary Education	-1.662	.007	.190	.057	.630
Secondary Education	-.177	.621	.838	.415	1.691
More than Sec	-.011	.976	.989	.484	2.023
Marital Status	.273	.276	1.314	.804	2.149
Number of	.149	.002	1.161	1.054	1.278
Income Source-		.141			
Income Source (1)-	-1.073	.069	.342	.108	1.087
Income Source (2)-	-.344	.497	.709	.263	1.914
Income Source (3)-	-.745	.202	.475	.151	1.491
Membership	1.339	.000	3.814	2.251	6.463
Age (Ref) – 18 to 24		.000			
Agecat(1) – 25- 39	2.136	.006	8.464	1.869	38.339

Agecat(2) - 40 – 59	.837	.219	2.310	.607	8.786
Agecat(3) – 60 – 79	-.071	.917	.931	.244	3.548
IncomeCat – 3,000 –		.456			
IncomeCat(1) –	-.506	.210	.603	.273	1.330
IncomeCat(2) –	-.032	.934	.969	.453	2.070
IncomeCat(3) –	-.075	.848	.928	.434	1.986
Constant	-1.335	.187	.263		

In line with our hypothesis 1, the result shows the number of dependants has an odd ratio of 1.12 at a  $p < 0.05$  signifying a positive impact on an individual’s saving behaviour. As the number of dependants increases the likelihood of saving also increases. This is coherent with the view of Schunk (2009) who observed that the probability of someone to save increases with the increase in uncertainties. As the number of dependant increases, the likelihood of the bread winner to save increases because of precautionary reasons; to protect all those who are under his/her care. In connection to this, the descriptive analysis in Table 2 shows 38% do save for precautionary reasons and all of them have dependants ranging from 4 to 25. The implication is that there is a need to enhance individuals’ income that would motivate them to save for other motives than precautionary. Usually, savings for precautionary motives are tied up; they have limited contribution in economic activities because the saver cannot use them either for business development or any other production activities.

The results also show membership to economic and social group discriminates individuals’ saving behaviour, which is coherent with the literature on financial literacy. Individuals who are members of either economic or social groups are observed to be more likely to save, for about 3.8 times, compared to those without membership. The reason behind is that, social and economic groups influence individuals’ financial literacy which is important for predicting the effect of their actions on savings (Yoong et al., 2012). This underscores the importance of financial inclusion initiatives to promote individuals to be part of social and economic groups.

In analysing the age as a determinant of the saving behaviour, we considered two options. Firstly, age as a continuous variable and secondly as a categorical variable based on age clusters. The result for continuous option indicated age matters. As age increases from 18 years, the likelihood of an individual to save also

increases. On the other hand, the categorical comprised of four clusters and the results show individuals belonging to the second age cluster comprising of respondents from the age 25 to 39 years are more likely to save for about 8.5 times as compared to the first age cluster of 18 to 24 years. Whereas, other age clusters have not shown significant discriminatory power on individuals saving behaviour. The results on age are coherent with life hypothesis cycle whereby people in the first working group category (25-39 years old) were more likely to save relative to other age groups. Our results provide more insight on the saving tendency for working age group such that it is not consistent throughout in all working age. The second working age group (40-59years) does not determine the saving behaviour.

The results regarding age clusters are coherent with Browning and Lusard (1996); Curtis et al., (2015) who observed that responsibilities and spending behaviour among different age clusters differs. The first age cluster comprises individuals who concentrate on starting life with little to save and some of them are still searching for jobs to settle. The second category comprises individuals who have already settled; they are in better position to save for their own future together with their families. It is this age group in which individuals are striving to build up their wealth pool including doing investment.

## **Conclusions**

The study aimed to explore the association between individual traits and the motives for saving, and the influence of demographic and social-economic attributes on the saving behaviour, particularly in Tanzania sub-urban area. The survey approach used to collect information from respondents. Then, descriptive analysis was employed to associate demographic and social-economic attributes with the saving motives, and then logit model adopted to determine the influence of the demographic and social-economic attributes on saving behaviour. The results show large proportion of the respondents' demographic and social economic attributes are associated with the saving for precautionary motive. Meanwhile, the logit results have shown demographic and social-economic attributes have influence on the saving behaviour, coherently with the theories. The findings show that gender, education, number of dependants, membership and age category influence individual saving behaviour at different degrees.

The findings from the study have policy implications, whereby financial inclusion initiative should be tailored differently according to the individuals' attributes to which the initiative aims. Moreover, the initiatives should also emphasize on shaping the members' saving motives towards investment related

motives, which have higher multiplier effect on improving the wellbeing of the society. There is a need for further research to identify appropriate mechanisms that can mould individuals' appetite towards investment related saving. Moreover, further research is also needed to evaluate the impact of different saving media options on the individuals' decision to save.

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