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Influence of Social-Economic Attributes and Saving Intentions on Saving Options: A Case Study of Sub-Urban Tanzania

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Abstract

The study examines the association between saving intention and alternative media of saving, along with determining the influence of demographic and social economic attributes on the choice of media of saving, focusing on Tanzanian sub-urban area. The analysis considered five alternative media of saving famous in the country; saving in cash, mobile money, saving and Credit Cooperative Organizations (SACCOs), bank accounts, and purchase of real assets. The structured questionnaire was used to collect data from 22 wards of Mbeya city council, where 401 respondents were reached; out of which 285 respondents were found to have saving habit. For analysis, descriptive statistics and multinomial logit regression were employed. The results show SACCOs were the most preferred over other saving options, particularly by those with business development intention and recurring motives. Furthermore, the results of the multinomial model show that gender, age, education, and monthly income significantly influence the choice of SACCOs saving over cash saving, as well as real asset purchase over cash saving. The study has implications on financial inclusion initiatives to Tanzania and other developing countries with similar context. Also, it offers additional insight to the financial inclusion literature regarding individuals' attributes that could influence their choice of one media of saving over other alternatives exposed to them.

***Keywords**: Alternative Media of Saving, Demographic and Social Economic Attributes, Multinomial logit regression.*

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1. Introduction

The development of the financial sector in Tanzania has gone through different phases since the introduction of liberalization reforms in the 1990's. In terms of increasing access to financial services, in 2013 the country introduced first phase of financial inclusion initiative, which focused on building enabling infrastructure (National Financial Inclusion Framework, 2014-2016). This was followed by the second phase in 2017 which aimed to enhance the availability of financial services and products that suit the needs of individuals and businesses (National Financial Inclusion Framework, 2018-2022). As part of the initiatives, in 2014, the country introduced Microfinance Activities Regulations (URT, 2014), in 2015, Electronic Money Regulations were introduced (URT, 2015); in 2018, there was introduction of Microfinance Act (URT, 2018) which was followed by Microfinance Non-Deposit taking service providers regulations in 2019 (URT, 2019). Consequently, the number of saving channels in the form of Banks, Saving and Credit Cooperative Organizations (SACCOs), other financial-based community organizations, and mobile financial services has been growing. However, despite these efforts, the rate of financial inclusion still seems to be unconvincing. The financial inclusion framework increased the inclusion rate only by 2% (Finscope survey, 2017). Meanwhile, the second financial inclusion framework has offered moderate impact, whereas the World Bank statistics show the aggregate savings percentage to the country's GDP increased by 2% between 2017 and 2020.

Despite significant efforts to increase the availability of saving channels, little is known about people's preferences for the selection of these saving media. In response, this paper analyses the influence of individuals' demographic and social economic attributes on choosing media of saving. Initiatives to enhance access to formal saving options are meant to help individuals to sort out their saving difficulties, because limited access contributes to more usage of informal saving channels (Loaba, 2021). Arguably, enhanced access alone may not necessarily influence individuals to use formal financial services; their willingness to use such channels should not be undermined. Individuals' choice of financial services is a function of not only service availability but also his/her preference for the type of service, which is driven by an ability to process and synthesize the suitability of the service (El-Massah and Abou-El-Sood, 2022). This underscores the importance of considering both, supply side, which represents availability of saving options, and the demand side representing the users' attributes.

Saving behavior in a given society is dependent on the availability of saving media options that are sufficient in number, accessible, user-friendly in terms of operation, aware of their existence, perceived usefulness, and trustworthy (Bime and Mbanasor, 2011). In contrast, from a demand perspective, individuals' decisions on the choice and means of saving are explainable by many factors including psychological, social, cultural, and economic factors beside the utility maximization or rationality (Amoah et. al, 2020). Moreover, the extension of the life cycle hypothesis by Shefrin and Thaler (1988) suggests that individual saving behavior can also be influenced by self-control, mental accounting, and framing. Therefore, non-usage of financial services does not necessarily mean non-availability of such service. Instead, someone may decide not to use a certain media of saving due to individual and social economic attributes (Ezzahid and Elouaourti, 2021).

It is important to understand the attributes which influence individuals' preferences for saving media in order to devise appropriate financial inclusion mechanisms. People might be willing to save, but if they prefer traditional means such as underneath of their beds or hidden pits, instead of formal channels, the economy will not benefit from such saving. When people use traditional means to save, the money becomes inaccessible for conversion into investment capital, as it is for formal channels. Moreover, the motives for saving among individuals reflect hierarchical structure toward liquidity preferences (Canova et al., 2005). Arguably, the liquidity level among the formal saving options differs; the liquidity of bank accounts, mobile money, SACCOS, and real assets as saving options is not the same. Consequently, not all formal saving channels would be attractive to individuals with different saving motives.

Despite the importance of identifying the attributes that influence people's preferences over media of saving, there are limited empirical studies in this area. The concentration of the existing literature (including Browning and Lusard, 1996; Furnham and Argyle, 1998; Curtis et al., 2015; Mori, 2017; Naito et. al, 2021) is on the influence of individual attributes on saving behavior, and few notable studies (such as Amoah et. al, 2020; Pasara et. al, 2021) have examined determinants of preference for distinct media saving options, but not on choice among media of savings. Moreover, the existing empirical literature (including Rehman and Faridi, 2011; Curtis et al., 2015; Haines, 2018) have focused either on urban or rural areas parse, but not in sub-urban areas. As Hua and Erreygers (2019) and De-Vos et al., (2020) iterate, individual attributes that influence individuals' saving preferences are not homogeneous across areas with different characteristics, such as rural, sub-urban, and urban areas. This study explores the influence of demographic and social economic attributes on the choice of media medium of savings.

The paper provides new insight regarding social-economic attributes that influences individual's choice among saving media options in Tanzanian Sub-urban areas; reflecting the context of many Sub-Saharan developing countries. Moreover, understanding the influence of these attributes will help reformers to customize financial inclusion programs. Specifically, the study examines the association between saving motives and the choice of saving media along with determining the influence of demographic and social-economic attributes on the choice of saving media.

The rest of the paper is organized into five sections which are as follows. The brief review of the existing literature is the next to provide a clear understanding of the key aspects of the study. The succeeding section is on research design, followed by explanation of the methods of analysis. Discussion of the findings then follows, and the final section comprises a summary with conclusions

2. Review of Literature

The most dominant theories in examining saving behavior and associated attributes include the absolute income hypothesis (Keynes, 1936), life-cycle hypothesis (Modiglian, 1957), and permanent income hypothesis (Friedman, 1957), which is an extension of the life-cycle hypothesis (LCH). Mostly, these theories focus on propensity to consume and liquidity preferences, which are discussed based on three motives (Eriksson and Hermason 2014). The

three highly discussed motives in determining saving behavior are precautionary motive, transaction motive and speculative motive. The discussion of these motives also associates them with demographic characteristics and social economic attributes such as age (which is highly emphasized in the LCH), gender, marital status, level of education, level of income (highly emphasized on PIH as well as the absolute income hypothesis), number of dependents, and social networking (Wearneryd, 1999).

Generally, the availability of saving options is paramount to any financial inclusion program. As Kairiza et al. (2017) argue, financial inclusion initiatives broaden saving options that would ultimately encourage individuals to save. However, despite the importance of widening saving options, understanding individuals' preferences on saving option is crucial for a tangible outcome because different saving options have different features. These preferences are inherently shaped by individual traits and surrounding social economic environment. As a result, someone's decision to use one medium of saving over another is inextricably linked to his or her characteristics and socioeconomic factors. Demographic and social economic attributes have a direct influence on an individual's behavioral bias; hence influencing their saving decisions (Charles and Kasilingam, 2013; Amari and Anis, 2021). The empirical evidence shows gender, age, education, and income have an impact on decisions regarding the usage of saving channels, including ownership and use of bank accounts for saving and borrowing, ownership and use of debit cards (Zins and Weill, 2016; Dar and Ahmed, 2021). In bank account ownership, women are observed to have marginally lower ownership compared to males, and people in the higher age group have a higher formal ownership rate compared to lower age group. In the case of education, people with primary or less than primary education have lower rate of formal account ownership compared with people with secondary or more than secondary education (Dar and Ahmed, 2021). Meanwhile, people with different income levels seem to have almost similar formal account ownership as time goes on, though initially those with higher income levels had more formal accounts ownership.

Individuals' choices about which saving option to use are also influenced by social and cultural factors (Allah Pitchay et al., 2020). In an Islamic society, for instance, where restrictions over interest charges are observed, it is unlikely for people to prefer conventional financial services, particularly when alternative exists. Coherently, empirical evidence from El-Massah and Abou-El-Sood (2021) show that religious belief differentiated individual's preferences over the choice of banking services; hence, bank-specific attributes were not the only determinants of the users' decisions. When it comes to individual preference for the saving media option, liquidity preference and associated risk matter in addition to social and cultural reasons (Kregel, 1986; Amari and Anis, 2021).

There is a consensus in the literature that demographic and social-economic factors influence risk tolerance and investment preferences (Lutfi, 2011; Charles and Kasilingam, 2013). In connection with this, the study of Chattopadhyay and Dasgupta (2015) shows age, being married, the number of dependents, the level of education, and the level of income influence risk appetite. Thus, such variables are likely to influence the choice of saving options, because different saving options have different risk profiles. Moreover, risk preferences differ with age, making some saving media more preferred by a certain age group depending on their risk perception of such options (Weagley – Gannon, 1991). Empirical evidence (Chattopadhyay and Dasgupta, 2015; Bucciol and Miniaci, 2011) shows that the older the individual, the less the appetite for taking

risks. Thus, the risk-taking attitude declines with an increase in age. Impliedly, age has an influence on the choice of saving media because different age groups have different liquidity preferences. Different saving options have different liquidity levels, reflecting different risk levels (Schclarek and Caggia, 2015). Besides age, gender also has an influence on risk tolerance. Males are considered more tolerant of investment risks than females (Lutfi, 2011; Temel-Nalin, 2013). Consequently, males and females may have different saving media preferences.

Furthermore, technological advancement has changed the way saving channels can be accessed, drawing individuals' attention to their saving media preferences. Digital tools and processes have brought revolutions in the finance industry to the extent of making financial services more accessible and available to different community groups (Ezzahid and Elouaourti, 2021). The growth in technology has contributed to the increase of saving media options in the form of mobile money, the extension of traditional banking services through agency banking, and the creation of networking facilities for SACCOS and community-based saving groups. The technological extensions provide alternative saving channels for various individuals.

Alternative saving channels have gained popularity, particularly in rural and sub-urban areas, because of their comparative advantages. In Tanzania, for instance, 70% of the population were using mobile phones daily by 2021, with a high usage frequency rate in urban areas (85% of the urban population) compared to rural areas, where the frequency usage rate is only 64% of the rural population (Kamer, 2022). Traditional banking services in rural and suburban areas are more expensive and unappealing to users when compared to other means of saving due to the high capital infrastructure required and low volume of customer transactions (Myeni et al., 2020). Studies also indicate that distance, the cost associated with the transactions, lack of trust in the saving channel, documentation, and a family member having an account contribute to making bank accounts less preferable to use (Dar and Ahmed, 2021; Amari and Anis, 2021). The distance for accessing the saving media option increases the cost of undertaking savings including transport costs, and risk of carrying the money throughout the journey (Bime and Mbanasor, 2011). Meanwhile, a lack of trust undermines the reputation of a saving media option and influences someone's choice of saving medium (Kong and Nyarko, 2018). In addition, the design of the bank products is not always compatible with the needs of low-income earners compared to SACCOs and mobile money services (Alesane et al., 2019).

Mobile money, which is also the outcome of technological advancements, has the potential to enhance individual saving rates (Ahmad et al, 2020). It provides users with an avenue to undertake financial services such as saving and executing transactions. Saving through mobile money is more attractive due to the convenience associated with its operation and usage compared to bank accounts (Asare, et al., 2018). Moreover, mobile money acts as a wallet for the owner to facilitate even online transactions. Among the determinants of mobile money usage are the availability of a top-up facility, income level, and education (Amoah et al., 2020). Mobile money services are simple and friendly to use even for non-educated people; hence, they have gained more trust from the users (Asare et al., 2018). In the case of Tanzania, there is sufficient coverage of mobile networks to allow even those in rural areas to have access. The in-built top-up facility (top-up bundles) has also simplified the usage of mobile money to save, even for those with low income. The revolution of mobile telecommunication technology has tremendously changed the mode of access to financial services in Sub-Saharan Africa. In Tanzania, for instance, 70% of the population were using a mobile phone daily by 2021, with a

high usage frequency rate in urban areas (85% of the urban population) compared to rural areas, where the frequency usage rate is only 64% of the rural population (Kamer, 2022). This has contributed to the development of branchless banking services and enhanced access to other financial saving platforms such as mobile money.

SACCOs is an alternative saving option that belongs to microfinance institution category and they are potential platform for enhancing saving rate (Pasara et al. 2021). These institutions have peculiar features that make them attractive to some groups of individuals (Bime and Mbanasor, 2011). The features of the SACCOs include the way they are managed and their interact-ability with the members. Management of such institutions is controlled by the members, and in some cases the management team is from within the group members; making members more comfortable. Besides providing saving platform, SACCOs provides microcredit facilities in the form of collateral free loans and group loans with an easy processing application (Said, 2019). These features makes SACCOs in a better position to serve marginalized groups including low income earners, small entrepreneurs and women in rural and sub-urban areas. SACCOs are considered to have loan portfolio which is less risk in terms of defaults because mostly the clients who take such loans are also members of the SACCOs whose profiles are well known (Nyangarika and Bundala, 2020; Alesane, 2019).

Beside advantages, SACCOs in rural areas are observed to struggle more in terms of performance compared to those in urban areas (Mjatta and Akarro, 2016). This is attributed by higher level of defaults in rural areas due to unstable income relative to urban SACCOs. Further to this, in urban areas SACCOs benefits from having members with relative high education level giving them advantage in their operations. Meanwhile, poor governance, frauds and lack of skilled staff are also observed to hinder the progress of SACCOs Tanzania, making them less attractive as saving option (Maghimbi, 2010).

Real assets provide a platform for saving, particularly for individuals who want to preserve the value of their savings. Real asset investment is preferred over saving money in bank accounts or in cash because it avoids the fall in the real value of money due to inflation (Kong and Nyarko, 2018). When someone considers which medium to use for saving, the ultimate value of the saved money becomes a very important aspect. This is congruent with the finding from Temel Nalin (2013), which indicates that inflation persuaded individuals to prefer capital market investment over bank saving. Moreover, relatively poor people in rural communities prefer to save in real assets, including agricultural produce, buildings, land, cattle, etc., besides cash (Oladeji and Ogunrinola, 2001). Since agricultural activities are predominant in rural areas, it becomes easier for people to save part of their produce for their own consumption and even to hedge against future cash requirements where they can sell them in the market. Meanwhile, in rural areas, saving through land acquisition gives the owner an opportunity to use it for agricultural activities while its value also increases with time.

Moreover, real asset investment is a preferable option to relatively poor people who aim to break down the viscous cycle of poverty through entrepreneurial investments that attract capital gain. Entrepreneurial behavior can stimulate productivity through real asset investment that would ultimately result in revenue growth and saving; hence cutting down the viscous cycle of poverty (Rohima, et al, 2013). When an enterprising individual decides to save for the long term, he or she is more likely to choose real asset investments over other options because their value usually

increases over time. This is more valid for savings that aimed to last longer, more than a year, because real assets have lower liquidity and they involve transaction costs to convert them to cash. Savings in other options, such as cash in hand, bank accounts, SACCOs, and mobile money, do not attract capital gains like real assets.

Backé et al. (2007) associate cash savings with the number of dependents that someone has to hedge against immediate cash needs that may arise to suffice the family. Moreover, married individuals have more income exposure for saving because of their combined effect on income derivation compared to single individuals, and hence are more likely to have preferred saving media different from those who are unmarried. It is noted that people with higher incomes prefer more formalized saving options compared to less formal channels (Dar and Ahmed, 2021). Also, saving in cash is more preferred when people have less confidence in the financial system. The perceived safety of the deposits and the stability of the entire financial system matter when deciding whether to save in cash or through bank accounts (Stix, 2013). In terms of age, young people are expected to prefer saving in cash to real assets because of their greater entrepreneurial instincts than elderly people. Young people are more proactive in entrepreneurial activities relative to elderly people (Liang et al., 2018), hence, cash saving allows them to take advantage of any opportunity that may arise. Empirical evidence also shows that young individuals have more instinct to engage in high risk investment portfolios requiring cash compared to elderly people (Charles and Kasilingam, 2013).

Considering the extant literature to show that personal traits and social economic attributes are potential determinants of individuals' willingness to use a particular channel of saving, there is a need for empirical evidence to alienate specific attributes. Existing literature has focused much attention on examining the attributes influencing saving behaviour (Browning and Lusard, 1996; Furnham and Argyle, 1998; Curtis et al., 2015; Mori, 2017; Naito et. al. 2021), but not on choosing among alternative media of saving. Also, few studies (such as Amoah et. al, 2020; Pasara et. al, 2021) have examined the determinants of a media of saving on an individual basis. The impact of individual attributes and saving motives on the individuals' choice on media of saving has remained folded.

It is vital to know individual preferences on media of savings, particularly in areas comprising people with low income because it will help in devising appropriate financial inclusion initiatives. Albeit people with low income have small amount to save, they are potential savers making it vital to know their saving media preferences (Alesane, 2019). By 2017 sub-Saharan countries had an average of exclusion rate of over 60% (Demirguc¨ ¸-Kunt et al., 2018). Although Tanzania had slightly lower exclusion rate of about 35%, but still it required attention. That is why there was an introduction of the National Financial Inclusion Framework II that aimed at increasing the formal financial inclusion rate to 75% by 2022.

3. Methodology and Analysis of Findings

This study used a cross-sectional research design, with survey data collected through a structured questionnaire from randomly selected residents of Mbeya City Council. The questionnaires were administered to 401 respondents; however, 287 participants were found to have a saving habit, and 114 participants were found to have no savings habits. To gauge determinants of preference over alternative media of savings, a study had to exclude participants with no savings habits. The saving respondents enquired about their media of savings among Cash, SACCOs, Mobile, Bank

and Real assets. Moreover, respondents were asked about their motives for saving—whether they save for recurrent purposes, investment/business development, precautionary purposes, or other development activities. The demographic and social economic attributes were also captured.

The district council in which the data were collected is a suburban area with a population of more than 500,000, according to 2019 statistics. The main economic activities in the area include trade, agriculture, livestock keeping, small-scale and large-scale industrial production, and service provision. It is estimated that 33.3% of the residents depend on agriculture for their livelihood and 43.4% are engaged in the informal sector, which is mainly small-scale production, petty trade, and selling of crops. Mbeya sub-urban has no shortage of banking services; there are fourteen (14) banks out of forty-six (46) in the country, with more than thirty (30) branches operating in the sub-urban. Besides, the use of a mobile phone as a medium for saving is also common in the region. The third quarter report of the Tanzania Communication Regulatory Authority (TCRA) for the year 2022 shows the number of mobile phone subscribers in the Mbeya region is more than 3 million, which is higher than the population of 2.3 million people as per the 2022 census results. This implies the existence of multiple subscriptions for some individuals. Considering the nature of economic activities in Mbeya city council, savings are not limited to financial terms. Instead, a significant part of the population is also expected to accumulate savings in the form of real assets. On the other hand, some people may decide to save in the form of liquid assets or cash on hand.

3.1.Methods of Analysis

The study employed descriptive analysis and a multinomial logit regression model adopted from Temel Nalin (2013) using SPSS. While descriptive statistics were used to explore the association between saving motives and the choice of saving media, the multinomial logit model was used to examine the influence of individual attributes on choices of saving media. The choice of analysis model is compatible with the nature of our data, whereas the dependent variable has a categorical structure and such categories are independent of each other. The multinomial logit analysis is preferable when the dependent variable has two or more categorical structures (Temel Nalin, 2013). Moreover, the number of valid cases for each independent variable exceed 10, which makes them suitable for multinomial logit estimation (See El-Habil, 2012). The specification of the model is as follows:

$$SavMode = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \beta_3 X_{3i} + \beta_4 X_{4i} + \beta_5 X_{5i} + \beta_6 X_{6i} + \beta_7 X_{7i} + e_i$$

n this model, SavMode refers to the alternative of the medium of saving, while Xi refers to predictors that represent individuals' demographic and socioeconomic attributes. The predictors are age, gender, marital status, education, monthly income, and membership in social or economic groups; their details are provided in Table 1Table 1: Description of Variables
Source: Authors' derivation based on various literature

VARIABLE	CODES
Saving Status	1 if the respondent is saving and 0 if not
Age Category	Age grouped on (18–24), (25–39), (40–59) and (60–79) and coded as 1, 2, 3, 4, 5 respectively

Gender	1 if the respondent is a male and 0 if is a female
Monthly Income	Income grouped as (3000 - 89999), (90000 - 174999), (175000 - 399999) and (400000 +) and coded as 1, 2, 3, 4 respectively
Education level	No formal education, primary education, secondary education and more than secondary education; coded as 1, 2, 3, 4 respectively
Marital Status	Single, married/living together and divorced/widow/separated coded as 1, 2, and 3 respectively
Media of Savings	Cash, mobile, saccos, bank, and asset purchase coded as 1, 2, 3, 4, 5 respectively
Motives of Savings	Recurrent/school fees, business development, development and emergence coded as 1, 2, 3, 4 respectively
Economic/Social Group membership	G 1 if the respondent belong to a group and 0 doesn't belong to a group

Discussion and Analysis of Findings

This section examines the factors that influence people's decisions about the best way to save. We hypothesize that gender, age, education, marital status, income, social/economic group membership, and source of income predict whether a person saves on cash (coded 1), mobile (coded 2), SACCOS (coded 3), bank (coded 4), or asset purchase (coded 5). Table 2 indicates the statistics on the number and percentage of cases observed in each mode of saving. Table 2: Descriptive Results

Mode of Saving	Observed	Marginal Percentage
Cash	67	23.30%
Mobile	36	12.50%
SACCOS	119	41.50%
Banks	51	17.80%
Assets Purchase	14	4.90%
Valid	287	100.00%
Missing	0	
Total	287	
Subpopulation	285[a]	

2. The dependent variable has only one value observed in 285 (100.0%) subpopulations

Source: Authors' computations from collected data

The results from descriptive analysis, which aimed to describe the association between saving motives and choice of saving media, show SACCOs are the most popular saving media option, with a frequency rate of 41.5% out of the surveyed saving respondents. This reflects the profile of the research area, where a majority of the residents engage in agricultural and small business communities generating relatively lower income, making co-operative society preferable for capital mobilization. SACCOs are the preferred medium for saving because of the demand for credit and their ability to inculcate saving behaviour through membership agreements (Bime and Mbanasor, 2011; Alesane et al., 2019; Said, 2019).

The observation shows cash is the second most popular saving media; it accounted for 23.3% of the respondents. This might be due to its liquidity advantage over other options for saving media.

Also, the results might be associated with inadequate confidence due to the closure of some financial institutions (Meru Community Bank (2018), Njombe Community Bank (2018); Kagera Farmers' Cooperative Bank (2018)); all of these were operating very close to the community in suburban areas of the country. Coherent with Stix's (2013) argument, the perceived safety of the deposits and the general concern over the stability of the entire financial system contribute to making cash savings more preferred over bank accounts.

Bank accounts ranked third with 17.8%; this might be attributed to documentation requirements, such as national identity cards and introduction letters, for opening bank accounts. As universally observed, documentation acts as a barrier to using banks as the most preferred saving media option (Oladeji and Ogunrinola, 2001; Dar and Ahmed, 2021; and Amari and Anis, 2021); hence, forcing people to use alternative options.

In the case of mobile phones, contrary to expectations, it is ranked fourth with a 12.5% frequency rate. This might be attributed to relatively higher transaction costs and perceived cyber security risks. Moreover, the tangibility effect of cash saved in mobile phones makes it less preferred compared to other forms (cash, bank, and SACCOs) because the pinch of spending the money is less than spending it in alternative saving options. When someone saves through a mobile phone, the likelihood of extravagant spending is high because of the lower pain and endowment effect accompanied by the ease of making the transaction (see Spantig, 2021). Asset purchase ranked fifth with a frequency rate of 4.9%; this can be attributed to the illiquid nature of real assets, and in most cases, real asset acquisition requires a relatively large sum of money.

The descriptive results show SACCOS is the most preferable saving media to respondents with different saving motives, except for the precautionary motive, which is observed to have varied preference rates across saving media options. As shown in Table 3, the preference rate for SACCOs accounts for 41%, 61%, and 45% of those who saved for development, business development, and recurrent expenditures, respectively. Meanwhile, for respondents who are saving for precautionary motives, their preference rate is 34% in SACCOs, 30% in cash, 17% in bank accounts, 14% in mobile money, and 5% in real assets.

Table 3: Association between Saving Motives and Media of Saving

	SAVING		CASH		MOBILE		SACCOS		B-ACCOUNT		R-ASSETS	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Recurrent/school fees	60	21	12	20	8	13	27	45	8	13	5	8.3
Business development	36	13	4	11	2	6	22	61	7	19	1	2.8
Development	80	28	16	20	11	14	33	41	17	21	3	4
Emergence	109	38	33	30	15	14	37	34	19	17	5	5
Total	285	100	65	81	36	46	119	181	51	71	14	19

Source: Authors' computations from collected data

The results of descriptive statistics on the association between individual attributes and the saving media option, shown in Table 4, show an interesting outcome. Younger respondents prefer cash savings over SACCOs, while older respondents prefer SACCOs. In terms of gender, men are observed to have more preference for SACCOs compared to women, whose preference rate is sparse across saving media options. For the case of income level, the observation shows the respondents with relatively lower income preferred saving in cash, but as their level of income increased, their preference rate shifted to SACCOs.

Table 4: Association between Attributes and Saving Options

Category	SAVING		CASH		MOBILE		SACCOS		BANK		R-ASSET	
	No	%	No	%	No	%	No	%	No	%	No	%
18–24	69	24	24	37(35)	14	39(20)	20	17(20)	10	20(14)	1	7(1)
25–39	158	55	32	49(20)	15	42(9)	73	61(46)	29	57(18)	9	64(6)
40–59	50	18	9	14(18)	6	17(12)	22	18(44)	11	22(22)	2	14(4)
60–79	8	3	0	0 (0)	1	3(13)	4	3(50)	1	2(13)	2	14(25)
Total	285		65		36		119		51		14	
Male	177	62	31	48(18)	23	64(13)	86	72(49)	26	51(15)	11	79(6)
Female	108	38	34	52(31)	13	36(12)	33	28(31)	25	49(23)	3	21(3)
Total	285		65		36		119		51		14	
Single	99	35	23	35(23)	15	42(15)	44	37(44)	14	27(14)	3	21(3)
Married	173	61	37	57(21)	20	56(12)	72	61(42)	34	67(20)	10	71(6)
Divorced	13	5	5	8(38)	1	3(8)	3	3(23)	3	6(23)	1	7(8)
Total	285		65		36		119		51		14	
3000 - 89999	52	18	17	28(33)	10	28(19)	13	11(25)	6	12(12)	6	43(12)
90000 - 174999	77	27	23	38(30)	13	36(17)	19	16(25)	18	35(23)	4	29(5)
175000 - 399999	74	26	15	25(20)	7	19(9)	37	31(50)	14	27(19)	1	7(1)
400000 +	82	29	5	8(6)	6	17(7)	50	42(61)	13	25(16)	3	21(4)
Total	285		60		36		119		51		14	
No formal	8	3	2	3(25)	0	0(0)	3	3(38)	3	6(38)	0	0(0)
Primary	114	40	40	62(35)	17	47(15)	27	23(24)	22	43(19)	8	57(7)
Secondary	83	29	16	25(19)	16	44(19)	30	25(36)	18	35(22)	3	21(4)
More than secondary	80	28	7	11(9)	3	8(4)	59	50(74)	8	16(10)	3	21(4)
Total	285		65		36		119		51		14	
NOTE: % in parentheses represents statistics within groups and % out of parentheses represents statistics between groups												

Source: Authors' computations from collected data

In addition to descriptive analysis, we conducted correlation test among independent variables to avoid multicollinearity problem in estimating the logit model. Inclusion of highly correlated variables in the model could inflate the standard errors of the parameters (See El-Habil, 2012). The results of the test is presented in Table 5. All independent variables have low level of collinearity; they have correlation coefficients ranging from 0.10 to 0.44. These are considered appropriate for the logit model because there is no multicollinearity problem among the independent variables..Table 5: Correlation Test

	Age	Education	Monthly income	Income source	Marital status	Dependants	Gender
Age	1						
Education	-0.091	1					
Monthly income	0.117	0.301	1				
Income source	-0.116	0.379	0.346	1			
Marital status	0.437	-0.110	0.055	-0.035	1		
Dependants	0.384	-0.072	0.104	-0.093	0.251	1	
Gender	0.026	0.017	0.069	-0.021	-0.104	0.046	1

Source: Authors' computations from collected data

After conducting descriptive analysis and correlation test, the multinomial logit model was utilized to assess the impact of demographic and social-economic attributes on saving media preferences. The model was built using respondents who opted for cash savings as a reference or baseline group, comparing them with other groups utilizing alternative methods of saving. Saving in cash is set as a benchmark because it is hypothesized to be an initial form of income before someone considers an alternative option for saving. Moreover, cash is highly fungible, and the majority prefers to have it in hand because the costs associated with its usage are lower than in any other form; that is the reason for a large population in developing countries to hold cash in hand (Spantig, 2021; Demirguc¨¸-Kunt et al., 2018). Thus, the estimated multinomial logit model examined the demographic and social-economic attributes that could distinguish cash saving from other saving options.

The estimated model fits well the data as shown in Table 6, which presents post-estimation tests including model fitting criteria, likelihood ratio tests, and Pearson and Deviance Chi-square statistics. These tests are comparing the full model (i.e., containing all the predictors) against a null (intercept only) model. The results of the test indicate that the Chi-square statistics are significant [χ^2 (28) =133.795, p<.001] implying that the full model is preferred over the null model**.** Similarly, the result of Pearson and Deviance Chi-square statistics [Pearson $\chi^2(1108)=1104.579$, p=0.523 and the Deviance $\chi^2(1108)=680.934$, p=1.00] support the model fitting criteria and likelihood ratio results. These diagnostic tests permit the discussion of the estimates of the predictors concerning an individual's preferences of the mode of saving.

Table 6: Model Fit Specification Results

Model Fit Specification Tests Results		
Model	Model Fitting Criteria	Likelihood Ratio Tests

	AIC	BIC	-2 Log Likelihood	Chi-Square	df	Sig.
Intercept Only	822.729	837.367	814.729			
Final	744.934	862.038	680.934	133.795	28	.000

	Chi-Square	Df	Sig.
Pearson	1104.579	1108	.523
Deviance	680.934	1108	1.000

Source: Authors' computations from collected data

The study has also classified the respondents into groups to determine how each group best predicted the model. Table 7 presents a classification that is used to determine which group was best predicted by the model. The model correctly predicted the Cash Savers group for 43.3% of the time [as 29 of the 67 people who preferred "cash savings" were predicted to do so by the model]. Persons who prefer SACCOS, on the other hand, were correctly predicted by the model at 82.4%. Furthermore, the model correctly predicted 41.2% of people's preference for banks. However, the model did a particularly poor job of predicting those who opted for mobile savings and the purchase of assets as their modes of savings. Interestingly the model prediction was above 51 percent.

Table 7: Classification of Group Prediction

Classification						
Observed	Predicted					
	1	2	3	4	5	Percent Correct
Cash Saving	29	0	23	15	0	43.3%
Mobile	14	1	15	5	1	2.8%
SACCOS	9	1	98	11	0	82.4%
Banks	14	0	16	21	0	41.2%
Purchase of Assets	2	0	11	1	0	0.0%
Overall	23.7%	0.7%	56.8%	18.5%	0.3%	51.9%

Source: Authors' computations from collected data

The regression coefficients from the estimated multinomial logit model show predictors that discriminate individuals' saving preferences for mobile money, SACCOs, banks, and real assets over cash. In our analysis, we coded 0 for cash and 1 for each alternative saving medium being examined. The coefficient of the multinomial logit model in Table 8 shows a number of demographic and social-economic attributes are able to significantly discriminate the preference of SACCOs for saving over cash as well as saving in real assets over cash. These attributes include gender, age, education, and monthly income, which were found to be significant predictors.

Males are found to be more likely than females to prefer SACCOs savings over cash savings. The results concur with the findings of Amari and Anis (2021), who found women to have

limited access to formal savings channels because of the barriers associated with unequal opportunities, laws, and regulations. Moreover, the result indicates that older individuals were more likely to choose SACCOs over cash savings relative to young individuals, which is consistent with the descriptive results. Elderly people are more likely to prefer saving in SACCOs because, as Amari and Anis (2021) argue, it helps them manage their wealth, and in many cases, those who have retired will keep on drawing and consuming their pensions.

Furthermore, our findings indicate that an increasing level of education also increases the chance for an individual to choose SACCOs savings over cash savings. This result can be associated with the increase in awareness and financial literacy that more educated individuals may have regarding the benefits of saving through SACCOs over cash savings. As Said (2019) noted, SACCOs offer not only a saving platform but also an avenue for someone to borrow in the form of collateral free loans at a lower interest rate than banks. Moreover, Temel Nalin (2013) postulates that an increase in education level enhances an individual's ability to make a benefit assessment.

In terms of monthly income, the estimated results indicate that when it increases the likelihood of choosing SACCOs over cash also increases. This can be linked with the differences in saving motives between individuals with low income and those with high income. The savings of the people with higher income are skewed towards capital accumulation for better future and self-realization (see Devaney et al., 2007) making SACCOs more preferred option for such purposes compared to cash saving. As Mpiira et al. (2014) iterate, there are different reasons for an individual to save including saving for precautionary reasons and capital accumulation for investing in higher earning assets. SACCOs offer a good platform to save for capital accumulation because it also offers credit facilities, while cash would be preferred by someone who saves for precautionary motives because of easy accessibility.

For the case of real asset, the coefficients of the estimated multinomial model indicate that only gender and age are significant predictors of choosing it over cash. The results infer that male were more likely to choose purchasing assets as their mode of savings relative to cash savings. In Tanzania the background of the customary laws of inheritance of 1963 prohibited women, widows and daughters from inheriting land; this might have a discouraging effect on women from owning real assets as saving option. Moreover, religious norms are also considered to have marginalized women to the extent of making them underprivileged in real asset ownership (Allah Pitchay et al., 2020).

In terms of age, the result indicates that being older increases the chance of an individual to prefer saving through purchasing of a real assets than cash saving. Elderly people have moderate risk profile (see Schclarek and Caggia, 2015) making them comfortable to save in real assets than saving in cash. In contrast, young aged group prefer saving in cash than in real asset because it provides them flexibility in terms of spending and investment decisions. As Charles and Kasilingam, (2013) observed, young age group are persuaded by intuitiveness which influence them to engage in high risk investment portfolio compared to elderly people. Thus, instead of tying up their savings in real assets, obviously young aged people would prefer saving in cash to take advantages of any investment options that may arise. This pattern is also reflected in Table 4 whereas 35% of those aged between 18 to 24 years preferred saving

in cash compared to 20%, 18% and 0% for those aged between 25 to 39, 40 to 59 and 60 to 79 years, respectively.

In contrast, the result of the multinomial model shows none of the attributes have significant influence on discriminating individual's choice between mobile money and cash saving as well as Bank and cash saving. This infers that age, marital status, gender, income, membership and source of income neither increase nor reduce the chances or differentiate the preference of the mobile or bank savers to cash savers. The non-discriminatory influence of the attributes might be attributed by the fact that cash, bank account and mobile money have relatively similar liquidity levels compared to SACCOs and real assets.

Table 8: Analysis of The Empirical Results for Multinomial Logit Model

Mode of Saving[a]		Coefficient	Probability Value	Odds Ratio
Mobile (first set)	Intercept	0.999	0.706	
	Gender	0.540	0.224	1.715
	Age	0.010	0.713	1.010
	Education	0.349	0.192	1.418
	Marital Status	-0.237	0.568	0.789
	Monthly Income	-0.177	0.431	0.838
	Membership	-0.412	0.359	0.663
	Income Source	-0.169	0.595	0.845
SACCOS (Second Set)	Intercept	-8.387***	0.000	
	Gender	1.000***	0.006	2.719
	Age	0.055***	0.008	1.056
	Education	1.017***	0.000	2.766
	Marital Status	-0.388	0.249	0.678
	Monthly Income	0.356**	0.052	1.427
	Membership	-0.221	0.558	0.801
	Income Source	0.083	0.723	1.086
Banks (third set)	Intercept	-23.375***	0.000	
	Gender	0.400	0.324	1.492
	Age	0.029	0.224	1.029
	Education	0.185	0.485	1.204
	Marital Status	-0.208	0.599	0.812
	Monthly Income	0.334	0.102	1.396
	Membership	18.761	.	
	Income Source	-0.213	0.439	0.808
Purchase of Assets (fourth set)	Intercept	-1.355	0.712	
	Gender	1.428**	0.051	4.172
	Age	0.083***	0.005	1.087
	Education	0.522	0.190	1.686

	Marital Status	-0.170	0.792	0.843
	Monthly Income	-0.448	0.170	0.639
	Membership	-0.303	0.640	0.738
	Income Source	0.251	0.544	1.286

a. The reference category is: Cash Saving Mode.
*** Significant at 1%
** Significant at 5%
* Significant at 10%

Source: Authors' computations from collected data

4. Conclusion

The study aimed at examining the association between saving motives and choice of saving media options, along with determining the influence of demographic and social economic attributes on the choice of alternative saving media. The descriptive statistics indicate that SACCOs are a predominant saving option across different saving motives, except for those who saved for precautionary motives, whose preference is sparse across saving media alternatives. Moreover, the study found the existence of a defined pattern in the association between saving options and demographic attributes. In connection with this, an increase in age, income, and education is observed to relatively prefer SACCOs over other saving media alternatives. The preference for having cash on hand, particularly among young and males, indicates the presence of a liquidity preference for a quick response to any investment opportunity. Meanwhile, the multinomial logit model shows the demographic and social economic attributes are capable of discriminating between SACCOS and cash, as well as between real assets and cash. Specifically, the study found that gender, age, education, and level of income significantly influence the preference of an individual to choose SACCOs over cash. Similarly, gender and age are observed to significantly discriminate when saving on real assets over cash. Male respondents were found to be more likely than female respondents to prefer SACCOs or real assets over cash.

Given the findings of this study, it is recommended that policymakers should prioritize SACCOs in financial inclusion initiatives, particularly in suburban areas. The preference of individuals for SACCOs reflects their comparative advantage over other saving options. The results of this study have implications on financial inclusion initiatives not only to Tanzania, but also to other developing countries with similar context; striving to address financial exclusion problem. Also, the study offers additional insight to the financial inclusion literature regarding attributes of individuals that could influence their choice of one media of saving in lieu of other alternatives exposed to them. Nevertheless, further research is needed to uncover the reasons that make other saving options less preferable, aside from demographic and social-economic attributes. Such research may need to consider a wider coverage in terms of case studies, which is the limitation of this study, for more insight.

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