

THE EFFECT OF FINANCIAL INCLUSION ON HOUSEHOLD SAVING PATTERNS IN UGANDA

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**A DISSERTATION SUBMITTED TO THE SCHOOL OF BUSINESS IN PARTIAL FULFILLMENT
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DECLARATION

I, **Mulumba Nicholas Mujjuni**, hereby certify that this dissertation is my original work and has been submitted in partial fulfilment of the requirements for the award of the Bachelor of Science in Accounting and Finance degree at Uganda Christian University. It has not been submitted to any other academic institution for any award. In cases where the work of others has been used, it has been acknowledged through proper citations and references.

Signature:  Date: Tuesday, 14th April 2026

APPROVAL

This dissertation titled “The Effect of Financial Inclusion on Household Saving Patterns in Uganda” has been submitted for examination with the approval of my supervisor.

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ABSTRACT

This study analyses the effect of financial inclusion on household saving behaviour, in Uganda according to the national representative FinScope Uganda 2023 Survey (N = 3,176 adults, weighted). Financial inclusion is also measured in three dimensions access (formal bank account ownership and proximity), usage (active mobile money use and SACCOs/VSLAs), and capability (financial literacy index) and household saving is also measured in two dimensions participation (any saving) and formality (use of semi-formal/community formal channels).

The survey-weighted logistic regression results show that the active use of the mobile money is a strong predictor of the likelihood of any saving (OR = 4.67, $p < 0.001$) and formal/semi-formal saving (OR = 3.71, $p < 0.001$). Formal bank account ownership is an important predictor of semi-formal saving (OR = 2.19, $p < 0.001$) but does not affect overall saving participation. Surprisingly, both of them have negative correlation with above-median financial literacy (OR = 0.55 and 0.51, $p < 0.001$), which would suggest that more financially literate households may not rely on precautionary or group savings strategies.

The urban/rural subgroups and the presence of gender, age, education, income and region are strong in the impacts. The study finds that the most influential element of saving behaviour in Uganda is the digital financial services, and the traditional bank accounts supplement the semi-formal channels. Responses to the policy should then be to augment the availability of credible mobile money infrastructure, to develop product-specific savings products and to provide behaviourally-targeted financial literacy programmes as opposed to knowledge-only interventions. Keywords: Financial inclusion, household saving, mobile money, financial literacy, Uganda, FinScope 2023.

CHAPTER ONE

INTRODUCTION

1.0 Introduction

Financial inclusion (FI) has been a universally agreed-upon definition of financial services availability and successful utilisation by the overall society, which has been recognised as a key factor in economic growth and a predictor of poverty reduction (World Bank, 2023). The access to such financial services as savings positions, online payment systems, and credit services is not only perceived as a financial issue in the modern development discourse, but it is also viewed as a necessary tool of benefiting household welfare, economic stability, and a long-term involvement in productive activities (Allen et al., 2016).

Similarly, in other developing economies, such as Uganda, the rapid development of digital financial services, namely mobile money and digital banking has played a significant role in the expansion of access to financial platforms (Bank of Uganda, 2022; GSMA, 2023). The availability however does not always translate to the improvement of financial behaviour. Based on the available empirical evidence, the impact of financial inclusion on people can be meaningful only when people actively and productively use the existing financial services (Klapper and Singer, 2017).

One of the financial behaviours is household saving among the many which have been affected by inclusion and could smooth consumption, risk and investment in human and physical capital (Dupas and Robinson, 2013; Karlan et al., 2017). The savings enhance the capacity of the households to absorb the economic shocks, finance education and health, and increase productive assets in the long-term. Although these developments have made significant strides in increasing access to the financial services, Uganda still faces the problem of accessing financial services and converting the availability of financial services into sustainable and formalised saving behaviours. On a similar note, there is apparent evidence at the regional level

indicating that the improved account ownership does not necessarily lead to the improved formal savings (AFI, 2020; Honohan and King, 2012).

It is also against this background that this study aims at critically assessing the relationship between the multidimensional components of financial inclusion and household saving behaviour in Uganda. It will not just be a descriptive finger of access and will evaluate whether financial inclusion programs are achieving desired behavioural and welfare changes.

1.1 Background of the Study

Financial inclusion has been championed in the world as one of the instruments of realization of Sustainable Development Goals (SDGs) especially SDG 1 poverty eradication and SDG 8 decent work and economic growth. Empirical evidence shows that informal financial markets to formal financial markets leads to better ability of households to plan, save, and deal with financial risk (Karlan et al., 2017).

Mobile money services have been a revolutionary factor in the increased financial access in Sub-Saharan Africa through digital financial innovations. One of the best-documented instances of such change is the M-Pesa system implemented in Kenya (Jack & Suri, 2014). Recent studies however caution that traditional measures of access can provide a misleading picture of progress when they are not in a position to capture the richness and quality of financial service use. A number of studies show that a good proportion of the population have financial accounts with them though they do not have habitual or effective saving behaviour (Beck and Demirguc-Kunt, 2008; Cull et al., 2014).

The critique shows how the significance of research that addresses the behavioural outcomes of behavioural access level is essential. The need to comprehend the role of financial inclusion in the real-world financial practices is also critical to assess the developmental effects.

In the Ugandan context, in accordance with the FinScope Uganda 2023 Survey, the financial accessibility has increased significantly, most of which is propelled by mobile money services and the proliferation of agent banking services. The tendency toward the growing mobile money penetration that has turned into a significant source of financial access is confirmed by the national data (Bank of Uganda, 2022; GSMA, 2023). But the advances given are not transformed in an equal measure into deep financial engagement. Though there is a large proportion of adults who access financial products, there is a low access to formal saving products. A large percentage of households living on informal systems, such as household savings, village savings and loan associations (VSLAs), and savings and credit cooperative organisations (SACCOs) also exists. The data provided empirically show that the following variables have a significant influence on the saving behaviour in Uganda distance to services, use of digital tools, or financial literacy level (Kitamirike and Kato, 2021; Nuwagaba, 2020). These results imply that access alone strategies are not enough; structural, behavioural, and ability-based impediments remain that constrain the uptake of formal savings services.

1.2 Statement of the problem.

Although the country has had an era of continued investment in financial inclusion policies and the increased growth of digital financial services, Uganda still faces a poor mapping of financial access into improvements in household savings outcomes. The FinScope Uganda 2023 Survey has shown that in spite of a significantly large percentage of adults being financially included to some extent, saving behaviour is still sub-optimal. They often have irregular savings, have low balances, and use more informal and less secure means of savings. Similar tendencies have been reported throughout the African environment, whereby the application of informal savings and incoherent saving behaviour has remained despite its increased accessibility (AFI, 2020; Dupas et al., 2016). This difference in access and utilisation indicates that the current financial services might not have the features that are useful in motivating saving or are not in line with the cultural and behaviour tendencies of the time. In addition, lack of money to make good decisions of finance cripples informed financial

decisions, which is also often observed in East Africa (Atkinson & Messy, 2012). In turn, a more systematic empirical study is needed to determine which particular aspects of financial inclusion, including the access to infrastructure, the use of digital services, and financial literacy affects the household saving behaviour the most. In the absence of this kind of evidence, policy interventions will be at risk of being useless or of low quality.

1.3 Purpose of the Study

This research will attempt to assess empirically the nature, extent, and magnitude of the impact of financial inclusion on household saving patterns among the Ugandan adults who participated in the FinScope Uganda 2023 Survey.

1.4 Study Objectives.

- i. The study aims to investigate the impact of access and proximity to formal points of accessing formal financial services on the amount and frequency of household savings in Uganda.
- ii. To determine the effect of use of digital financial services on the formalisation of household savings.
- iii. To determine the relationship that exists between financial literacy/financial capability and household saving decisions.
- iv. To prescribe policy solutions that can boost household savings by getting financial inclusion initiatives more successful.

1.5 Research Questions

- i. How does access and proximity to points of formal provision of financial services and household savings relate to each other in Uganda?
- ii. How does the use of digital financial services affect the formalisation of household savings?

- iii. How far can financial literacy be used as an explanation of household saving behaviour?
- iv. Which policy alternatives can boost household savings through an improved financial inclusion?

1.6 Study Hypotheses.

- i. H1: Access and proximity to formal financial service points has a strong positive influence on the amount and frequency of household savings.
- ii. H2: There is a strong positive impact of usage of digital financial services on formalisation of household savings.
- iii. H3: The greater financial literacy and ability, the better they relate to household savings decisions.
- iv. H4: The impact of financial inclusion on household saving patterns is different when using key household characteristics including location (urban/rural) and education level.

1.7 Scope of the Study

The research is conducted on the whole country of Uganda with the help of the nationally representative FinScope Uganda 2023 dataset, both urban and rural populations. Besides that, other variables like age, gender and other variables that are relevant are put into consideration as necessary. Moreover, the study involves cross-sectional data gathered in 2023, which represents up-to-date financial behaviours and conditions.

The research is on financial inclusion (access, usage and financial capability) and household saving (participation, frequency, and formality). Bigger macroeconomic

and political factors are an accepted phenomenon but not empirically tested with latest FinScope data.

1.8 Importance of the Study.

The probable findings that may be arrived at out of this study will offer practical guidance to the policymakers at the Ministry of Finance, Planning and Economic Development, and the Bank of Uganda to develop more effective financial inclusion policies that will enable the population to save and enjoy financial stability. Banks, MFIs, SACCOs and mobile money operators (financial service providers) will acquire practical knowledge on household savings habit so as to create user-focused products. Academically, the research will add to the scanty micro level evidence on financial inclusion and saving behaviour of Uganda. Finally, households will gain indirectly by having better policies and better-designed financial products which will lead to greater financial resilience of households in the long run.

This research project offers practical information on domestic saving behaviour and pattern of service use to financial intermediaries, including commercial banks, the micro finance banks, SACCOs and mobile money operators. These lessons may be the foundation of user-friendly savings products that can enhance their usage, stickiness, and industry performance.

On the academic front, the study adds to the thin layer of empirical evidence on the topic of micro-level impact of financial inclusion on household savings in Uganda. It shows the methodological and contextual data that could be extended to improve comparative research and to support the further extension of the theories in the area of financial behaviour and development economics.

Lastly, the findings are applicable to the households, which would reap indirect benefits of policy changes and financial products according to the study. The study reinforces the strategy aimed at bolstering household financial strength and ensuring long-term economic sustainability by revealing obstacles to formal savings and focusing on effective mechanisms of inclusion.

1.9 Justification of the Study

This study is supported by the fact that the financial inclusion agenda should be gauged on the platform of behavioural results as opposed to access itself. Even though high levels of reported access are high, continued use of informal saving and low uptake of formal products indicates that current approaches may not be adequate. The study produces policy-relevant evidence in a timely manner by using the recently and validated FinScope 2023 microdata and relating specific dimensions of inclusion (mobile money usage, account ownership, and financial skills) to observed saving behaviour. The results will be beneficial in helping policymakers and financial institutions to come up with interventions that not only increase access, but also enhancing safe and sustainable saving behaviours

1.10 Limitations of the study.

Although this study represents good empirical evidence, it has some limitations. Firstly, the FinScope Uganda 2023 data is cross-sectional, meaning that it is an image of the financial behaviour at one point in time. This limits the ability to establish causal relationships in the long term or track the changes in saving behaviour over time. Secondly, the survey is based on self-reported data, and it can be prone to recall bias or social desirability bias, especially on the amount of savings and financial literacy. Third, the research, as much as it modifies the main socio-economic factors, does not see all the unobserved influences, such as personal risk preferences or cultural saving attitudes. Despite these deficiencies, the findings are made reliable and of policy interest through the use of nationally representative and survey-weighted data and robust econometric models.

1.11 Conceptual Framework

Independent variable

Financial inclusion

1. Access to Financial Services

Ownership of formal bank accounts

Access to mobile money platforms

Proximity to financial service points

2. Usage of Financial Services

Frequency of deposits and withdrawals

Use of mobile money for saving and payments

Engagement with SACCOs, VSLAs, and MFIs

3. Quality of Financial Services

Affordability of financial services (low fees)

Reliability and safety of digital systems

Trust in financial institutions

Dependent variable

Household Savings

- Increased likelihood to save

- Higher amounts saved

- Improved financial security

- Use of formal saving channels

- Reduced reliance on informal mechanisms

- Improved ability to manage financial shocks

- Long-term wealth accumulation

- Greater financial resilience

1.12 Conclusion

The chapter has also provided the context, rationale, objectives and conceptual basis of analysing the relationship between financial inclusion and the household saving patterns in Uganda. The following chapters provide a review of relevant literature, the methodology, the presentation of the empirical results, and conclusions and policy recommendations.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

The chapter will be a systematic review of the available literature on the interrelation of financial inclusions and household savings, specifically on the agencies of emerging economies and Ugandan context. It explains the conceptual underpinnings that elucidate the channel through which access to financial services mediates saving behaviour, challenges conceptually-relevant questions, and critically assesses both empirical data at the global, regional and local levels. The chapter concludes by developing research gaps that will enable the ongoing inquiry that will use the data offered by the FinScope Uganda 2023 Survey.

2.1 Theoretical Review

Many economic and behavioural theories support the relationship between financial inclusion and household saving by explaining the saving behaviour of individuals and the enabling role of financial institutions mobilising of resources. The Life Cycle Hypothesis (LCH) postulates that individuals will spend and save throughout their lives so as to stabilize living standards in the face of fluctuating incomes. This theory states that people are likely to save when they are in the economically productive age and dis save when they retire (Modigliani and Brumberg, 1954). Formal financial services give the person the capability to carry out long-term savings plans since it gives secure and methodical resources of amassing wealth. Bank accounts, mobile wallets, pension scheme, fixed deposits among other products encourage systematic saving that will help one to prepare themselves in case of financial emergencies in future. Thus, financial inclusion enhances the potential of the households to smooth consumption through time.

Permanent Income Hypothesis A theory, which argues that although the economy condition may not change the level of income will not significantly decrease with time.

The Permanent Income Hypothesis (PIH) is founded on the hypothetical assumption that the level of personal consumption and saving will be pegged on generalized income in the future, as compared to the present income (Friedman, 1957). The impacts of interim alterations in revenues would therefore be less critical to interfere with the consumption habits since individuals would strive to maintain the consumption rates. This process is enhanced by the financial inclusion that enables households to save during the periods of excess and utilize accumulated resources during the periods of deficit. Formal financial institutions can add to the frequency of savings and reduce the exposure to uneven income which enhances the consumption smoothing of households.

The theory of Financing Intermediation is concerned with the way financial intermediaries are able to mobilize savings and effectively allocate resources (Gurley and Shaw, 1960). With the help of intermediaries, the cost of transacting, risk, and transfer funds between surplus and deficit units are minimized. Commercial banks, SACCOs, microfinance institutions and mobile money operators are institutions that allow households to save and obtain credit which contributes to the overall economic growth by mobilising more savings.

The Behavioural life cycle Theory recognises the fact that at all times people do not behave in a rational manner. Low self-control, present bias, and mental accounting are typically the causes of poor saving (Shefrin and Thaler, 1988). Such constraints can be reduced by inclusive financial systems which offer commitment devices, automated saving plans and group-based plans. Structural support can be provided through digital wallets, mobile savings applications, savings groups, to motivate disciplined saving and to dissuade impulsive consumption.

2.2 Empirical Literature Review

The international studies have continually depicted a positive relationship between the financial inclusion and household saving. Allen et al. (2016) investigated the data of 148 countries and discovered that formal saving behaviour is tightly linked with account ownership. Like Demirguc-Kunt and Klapper (2012) have shown that the increased access to formal financial services, the less reliance on informal saving mechanisms occur. Mbiti and Weil (2011) demonstrated that mobile money service in Kenya improved household saving and decreased cash dependency, especially among the low-income populations.

Digital financial services have a close association with better saving behaviour in Sub-Saharan Africa. Appiah et al. (2021) observed that an increase in mobile money leads to increased saving frequency among Ghanaian household. Anetor et al. (2016) conducted a study in Nigeria and found out that the use of formal financial institutions has a positive effect on the rate of saving, and the effect is stronger among urban and educated populations. Mago and Chitokwindo (2014) reported that mobile banking enhances saving among informal traders and smallholder farmers in Zimbabwe by providing flexed and inexpensive storage facilities.

Policy interventions like the National Financial Inclusion Strategy (2017/2022) have made a huge impact in enhancing financial access in Uganda. According to FinScope (2023), more than four-fifths of adults are financially included, mostly using mobile money. Nsubuga (2020) discovered that mobile money services have increased the capability of rural households to save. Namirembe and Wamala (2021) demonstrated that Village Savings and Loan Associations (VSLAs) enhance saving behavior and decrease financial vulnerability, particularly among women business owners. Nonetheless, Nabukeera (2022) pointed out that low financial literacy and income uncertainty remain the key limiting factors to the adoption of formal saving products, despite the improved access.

Evidence of the region of East Africa supports the significance of both digital and community-based solutions. Research also shows that although mobile money has increased the inclusion levels, the transformation of access to formal saving has not been fully achieved (Kitamirike and Kato, 2021). In Uganda, the participation in saving is high (around 6073% of adults report having done some saving), but the proportion of saving through informal or semi-formal mechanisms instead of commercial banks is high (FinScope, 2023). This trend indicates structural barriers like distance, cost, and trust and behavioural factors such as financial literacy.

2.3 Synthesis and Research Gap.

The literature survey has a few general patterns: higher saving participation is not always positively related to financial inclusion, particularly via digital tools; formal accounts and mobile money usage have a complex role which is not always positively correlated; and financial literacy has a multifaceted role that cannot always be positively correlated. However, even nowadays, there are still huge gaps. In the majority of studies, they concentrate on a particular segment of the population (e.g., microfinance users or urban dwellers) but not on nationally representative samples. The majority of them define financial inclusion in terms of the number of bank accounts and do not pay a lot of attention to the common services such as mobile money and community-based organisations such as SACCOs and VSLAs in the Ugandan context (FinScope, 2023). The literature that examines the moderating effects of demographic and socio-economic factors on the inclusion-saving relationship, including gender, education level, income level, and employment status is lacking. Finally, the FinScope Uganda 2023 rich microdata set remains untapped to explore the multidimensional relationship between access, utilisation, capability and saving outcomes at the national level. The available research seals these gaps by using the FinScope Uganda 2023 data to empirically research the impact of the different dimensions of financial inclusion on household saving behaviour. It provides evidence policy-relevant both in the long run, on what dimensions of inclusion will most likely promote saving behaviour in Uganda. The second chapter presents the methodology

that will be used to conduct the empirical analysis that will involve the operationalisation of the variables, sources of data, and estimation techniques.

CHAPTER THREE

METHODOLOGY

3.0 Introduction

In this chapter, a methodological outline highlighting the steps followed to investigate the impact of financial inclusion on household savings in Uganda based on evidence obtained through FinScope Uganda 2023 Survey. It completely describes the research plan, defines the study population, provides the sample size and the methods of sampling, sources of data, the measurement and operationalisation of the variables, the methodology of data analysis, and the problems of ethics related to the research. The role of financial inclusion (i.e., mobile money usage and ownership of formal financial accounts) in household saving behaviour is questioned in the study through the use of a quantitative research design using secondary survey data as research questions

3.1 Definition of Variables

Household saving behaviour is the dependent variable and it is measured in two ways. The first measure is saving participation; a binary variable that is coded 1 when the respondent says that he or she does some form of personal saving and 0 when the respondent says that he or she does not do any form of personal saving. The second variable is the formality of saving, a binary variable that is coded as 1 in case the respondent uses at least one semi-formal or community formal channel to save (such as VSLAs, SACCOs, or mobile money wallets to save) and 0 in case the respondent saves only through informal means or none at all. Financial inclusion is the primary independent variable, which can be operationalised in three dimensions as per Sarma (2012). The measure of access is the ownership of a formal bank account (binary) and registration with mobile money services (binary). Usage is measured by active use of

mobile money to either transact or save (binary) and SACCOs or VSLA membership. The measurement of capability is through a financial literacy index that is built through survey questions on budgeting, basic financial concepts, and emergency preparedness and a binary indicator of trust in formal financial institutions. Key socio-economic and demographic variables as control variables include gender, age, highest level of education achieved, employed or unemployed, income level, place of residence (urban/rural), and region. These controls can be used to isolate the independent effect of financial inclusion on the saving outcomes.

3.2 Sources of Data

The research is based on secondary data of the FinScope Uganda 2023 microdata set, which is a comprehensive data on financial access, use, saving behaviour, financial literacy, and socio-economic characteristics. The sample of the survey comprised 3,176 adults aged 16 years and above using three stage stratified probability sampling design that ensures national, regional and urban-rural coverage. Sampling weights, strata, and cluster identifiers are used to analyze the sample to develop nationally representative estimates and overcome the complex survey design. The survey report of the 2023 survey of the FinScope Uganda gives more information regarding the definitions of variables and sampling used in the survey.

3.3 Data Analysis

The association between financial inclusion and household saving is explored using quantitative techniques. The analysis will take place in phases: descriptive statistics to characterize the saving behaviour and financial inclusion indicators; bivariate analysis through cross-tabulations and chi-square tests; and multivariate logistic regression to determine the adjusted impacts of financial inclusion dimensions on the saving outcomes, controlling the confounding factors. All the estimations apply survey weights and consider clustering on the enumeration area level and regional stratification. The analysis and data management are done in Stata.

3.4 Model Specification

Two logistic regression models are specified to address the research objectives. The first model examines the determinants of any saving participation:

$$\text{logit}(\text{Saves}_i) = \beta_0 + \beta_1 \text{Access}_i + \beta_2 \text{Usage}_i + \beta_3 \text{Capability}_i + \gamma X_i + \epsilon_i$$

where Saves is a binary indicator of any saving, Access includes bank account ownership and mobile money registration, Usage includes active mobile money use and group membership, Capability includes the financial literacy index and trust, and X_i represents control variables such as gender, age, education and residence.

The second model focuses on the formality of saving:

$$\text{logit}(\text{FormalSave}_i) = \beta_0 + \beta_1 \text{Access}_i + \beta_2 \text{Usage}_i + \beta_3 \text{Capability}_i + \gamma X_i + \epsilon_i$$

Marginal effects are computed to facilitate policy-oriented interpretation. Survey-weighted logistic regression with robust standard errors is used to account for the complex survey design.

3.5 Estimation Techniques

3.5.1 Descriptive Analysis

The profile of the savers and non-savers, levels of financial inclusion, and the most important socio-economic characteristics are described by calculating weighted frequencies, means, and percentages. The distributions are represented using graphical representations like bar charts.

3.5.2 Bivariate Analysis

The chi-square tests and cross-tabulations test the unaltered relationships between the saving outcomes and financial inclusion indicators and demographic variables.

3.5.3 Multivariate Analysis and Diagnostic Tests.

Multivariate logistic regression identifies the independent impacts of dimensions of financial inclusion. Model diagnostics are used in the form of goodness-of-fit (pseudo-R²) and classification performance, as well as to check multicollinearity (Variable Inflation Factors VIF). Standard errors are of heteroskedasticity-robust. To test the model specification, the link tests and the residual analysis are carried out.

3.6 Data Processing and Data Management.

The microdata set FinScope Uganda 2023 is cleaned and ready to be analysed. Where necessary, the variables are recoded, missing values are treated accordingly and new composite indicators (as in the financial literacy index) are created. There is a consistent application of unique identifiers to merge the data where necessary, and the use of survey weights, strata, and cluster variables. To achieve transparency and reproducibility, all the steps of the analysis are recorded in do-files.

3.7 Measuring and Operationalising Variables.

In the present research, the operationalisation of household savings and financial inclusion is based on the indicators on Finscope Uganda 2023 microdata. It is informed by the multidimensional model of financial inclusion, written by Sarma (2012), that emphasizes access, usage, and financial capability and is in line with empirical evidence on saving behaviour in developing economies (Demirgüç, Kunt et al., 2018).

3.7.1 Dependent Variables

The householder savings is the dependent variable of the study and is measured using a variety of measures to measure both the participation and quality of the saving behaviour.

The primary dependant variable is saving status and it presents a respondent with the question of whether he/she is engaged in any saving activity. This variable is obtained by survey questions on the current practice of saving and coded as a binary event with

one being the savers and zero the non-savers. The specification is adequate in the analysis of probability of saving.

To order the structural level of the dimension of savings, there is a second dependent variable, the measure of savings formality. The respondents are classified into that institutions/mechanism where they save. The savings made with the use of commercial banks, SACCOs or microfinance institutions are considered to be formal savings, whereas, the savings made with the use of informal systems only are taken to be non-formal savings. With the aid of a binary indicator, the respondents who have a formal saving channel at least are identified.

The financial value of saving in a given reference period is used as a secondary dependent variable to ascertain the intensity of saving in a given reference period. Since the distribution of monetary values does not follow the normal distribution, the natural logarithm of monetary values of reported saving is implemented in a regression analysis to enhance the normalcy of the model and minimise the effect of outliers.

3.7.2 Independent Variables

Financial inclusion is the main independent variable, which is operationalised in three forms, access, usage and financial capability.

The indicators of ownership and physical access are used to access the financial services. Bank account ownership is a binary variable that is utilized to code bank account ownership. Access to mobile money is obtained with the help of a binary indicator which is registration of mobile money services. Measured as the distance to financial service, travel time as reported to the nearest service provider measures it.

Financial consumption indicates that there is active consumption of financial products. The usage of mobile money is also gauged in the form of a binary variable that has a value of either frequent usage in the form of a transaction or saving. The other use indicator included to obtain the relevance of the group-based financial mechanism in Uganda is membership of the SACCOs or VSLAs.

The indicators of financial literacy and institutional trust are used to measure financial capability and quality of services. Questions are used in the survey to determine the items that measure budgeting skills, basic financial concepts, and emergency preparedness to create a financial literacy index. The communication of trust in the financial institutions is an indicator that has a binary scale based on the trust that respondents have in formal service providers.

3.8 Ethical Considerations

The research is based on secondary, anonymised survey data of the FinScope Uganda 2023 Survey, under the auspices of Financial Sector Deepening Uganda and partners. There was no primary data collection that involved the use of human subjects. The access to and use of the data follows the guidelines of the data custodians. The presentation of the results is only in aggregate form which means that the individual respondents cannot be identified hence data is anonymised. The study is objective, is cited, and has a confidentiality of the dataset.

The following chapter reports on the empirical results of the descriptive, bivariate and multivariate analyses.

CHAPTER FOUR

PRESENTATION, ANALYSIS AND INTERPRETATION OF RESULTS

4.0 Introduction

This chapter analyses the empirical evidence about the impact of financial inclusion on household saving behaviour in Uganda based on the results of the survey of FinScope Uganda 2023. The analysis is informed by the objectives of the study, the role of the dimensions of financial inclusion, including access, usage, and financial capability in shaping saving behaviour.

The presentation below has been done in a systematic manner. Which starts with socio-demographic factors of the respondents, and then proceeds to the descriptive analysis of the saving behaviour indicators and the financial inclusion indicators. The

chapter continues by showing the bivariate relationships, and finishes by presenting multivariate regression results.

All estimates are weighted in order to ensure representativeness and adjusted for the complex survey design, including clustering and stratification.

4.1 Socio-Demographic Characteristics of Respondents

Table 4.1: Socio-Demographic Characteristics (Weighted)

Characteristic	Category	Percentage (%)
Gender	Male	48.3
	Female	51.7
Residence	Rural	70.1
	Urban	29.9
Education	No formal	15.2
	Primary	27.6
	Secondary	21.1
	Tertiary	25.1
Age Group	20–24	31.1
	25–29	19.2
	30–34	20.3

Source: FinScope Uganda 2023 (Weighted)

The sample will be representative of the adult population in Uganda. The ratio of females to the males is a little more (51.7% to 48.3%). The majority of the respondents (70.1%) are in rural settings and hence the results are more or less representative of the rural financial behaviour. The population is also relatively young

with the largest percentage of 20-24 age group (31.1%), which also influences the saving behaviour as young people are likely to have lower incomes and have different financial priorities. The level of education is varied but the primary education is predominant. Such distinction plays a significant role in the research of the role of financial literacy as a factor contributing to saving behavior. The results indicate that 73.7 per cent of the Ugandan adults save in one way or another and this implies that saving is a common practice. Only 55.6 do so through semi-formal or community-based channels, such as SACCOs, VSLAs, or mobile money. This implies that a high proportion of the savers still use the informal systems such as holding the money in the house. This disjunction highlights one of the key issues which is that financial inclusion has resulted in increased access yet not full translation into formal saving behaviour.

4.2.1 Saving Participation and Formality

Table 4.2: Household Saving Status

Indicator	Category	Percentage (%)
Any Saving	Yes	73.7
	No	26.3
Semi-formal/Community Saving	Yes	55.6
	No	44.4

Source: FinScope Uganda 2023 (Weighted)

The findings show that 73.7 per cent of the Ugandan adults save in one way or another implying that saving is a common activity.

However, semi-formal or community-based channels, including SACCOs, VSLAs, or mobile money, are used by only 55.6%. This means that a large percentage of the savers continue to use the informal systems like keeping money at home.

This gap underscores one major problem which is that financial inclusion has led to more access but not yet full translation into formal saving behaviour.

4.3 Financial Inclusion Indicators.

In this part, the authors describe the most significant measures of financial inclusion in the adult population of the Ugandan population, paying attention to the access to and use of formal and semi-formal financial services. The analysis is carried out based on weighted percentages of FinScope Uganda 2023 data to estimate the national estimates. Three indicators are taken into consideration such as ownership of formal bank account, registration of mobile money services, and active usage of mobile money. These indicators depict various aspects of financial incorporation customary banking admittance, digital registration, and the useful activity and lie at the heart of learning the impact of incorporation on savings. Table 4.3 shows the weighted distribution of these indicators.

4.3.1 Access to Financial Services

Table 4.3: Access Indicators

Indicator	Percentage (%)
Bank account ownership	38.0
Mobile money registration	78.5

Source: FinScope Uganda 2023

Mobile money access is significantly higher than bank account ownership, reflecting the dominance of digital financial services in Uganda.

This suggests that traditional banking remains less accessible, especially in rural areas.

4.3.2 Usage of Financial Services

Table 4.4: Usage Indicators

Indicator	Percentage (%)
Active mobile money use	62.3
SACCO/VSLA membership	41.5

Source: FinScope Uganda 2023

Active usage of mobile money is high, indicating that access is not only passive. Participation in savings groups also remains significant, highlighting the continued relevance of community-based financial systems.

4.3.3 Financial Capability

Table 4.5: Financial Literacy

Category	Percentage (%)
Above median literacy	48.0
Below median literacy	52.0

Source: FinScope Uganda 2023

Financial literacy levels are fairly balanced. However, its role in influencing saving behaviour requires further analysis, as previous studies suggest mixed effects.

4.4 Bivariate Analysis

This section examines relationships between financial inclusion variables and saving behavior through weighted cross-tabulations that control the survey design. The analysis will answer the research questions by focusing on the relationship existing between the differences in gender, urban/ rural residence and level of financial literacy and overall saving participation as well as the relationship between the differences in gender, urban/ rural residence and level of financial literacy and utilization of semi-

formal or community formal saving channels. These bilateral correlations give some initial data on the motivation of saving behaviours, which will be complemented by a multivariate analysis. The weighted proportions and confidence intervals of these associations are shown in the table below.

Table 4.6: Saving vs Mobile Money Use

Mobile Money Use	Saves (%)
Active users	82.4
Non-users	51.3

Source: FinScope Uganda 2023

Saving rates are significantly higher among active mobile money users, suggesting that digital financial services play a key role in promoting saving.

Table 4.7: Logistic Regression Results. Likelihood of Any Saving (Weighted)

Dependent variable: saves (1 = Saves any money, 0 = Does not)

Predictor	Odds Ratio	Std. Err.	t-stat	p-value	95% Confidence Interval
Female	0.998	0.124	-0.01	0.990	0.782 – 1.275
Urban	1.067	0.216	0.32	0.749	0.716 – 1.590
Above-median financial literacy	0.551***	0.074	-4.46	0.000	0.424 – 0.717
Owns formal bank account	1.168	0.249	0.73	0.467	0.768 – 1.776
Actively uses mobile money	4.670***	0.988	7.28	0.000	3.079 – 7.081

Constant	1.041	0.259	0.16	0.873	0.637 – 1.699
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Source: FinScope Uganda 2023

Model fit: $F(5, 310) = 18.70$, $p < 0.001$; $N = 3,176$; Population size ≈ 24.55 million; Design $df = 314$ **Significance:** *** $p < 0.001$

Table 4.8: Logistic Regression Results. Likelihood of Semi-Formal/Community Formal Saving (Weighted)

Dependent variable: formal_saving_semi (1 = Uses semi-formal/community formal channels, 0 = Does not)

Predictor	Odds Ratio	Std. Err.	t-stat	p-value	95% Confidence Interval
Female	1.137	0.125	1.17	0.245	0.915 – 1.413
Urban	0.820	0.127	-1.28	0.200	0.605 – 1.111
Above-median financial literacy	0.508***	0.068	-5.07	0.000	0.391 – 0.661
Owns formal bank account	2.185***	0.405	4.22	0.000	1.517 – 3.148
Actively uses mobile money	3.713***	0.731	6.67	0.000	2.521 – 5.469
Constant	0.503**	0.124	-2.79	0.006	0.310 – 0.817

Source: FinScope Uganda 2023

Model fit: $F(5, 310) = 26.65$, $p < 0.001$; $N = 3,176$; Population size ≈ 24.55 million; Design $df = 314$ **Significance:** *** $p < 0.001$, ** $p < 0.01$

The multivariate results reveal distinct drivers of saving behaviour after controlling for confounding factors. Active mobile money use emerges as the strongest predictor

in both models. Adults who actively use mobile money are 4.67 times more likely (OR = 4.670, $p < 0.001$) to engage in any saving and 3.71 times more likely (OR = 3.713, $p < 0.001$) to use semi-formal or community formal saving channels. These large, statistically significant effects highlight the central role of digital financial services in promoting both overall saving participation and the formalisation of saving practices.

Formal bank account ownership also has a substantial positive effect on semi-formal/community formal saving (OR = 2.185, $p < 0.001$), suggesting complementarity between traditional banking access and semi-formal mechanisms. However, bank ownership shows no significant association with overall saving (OR = 1.168, $p = 0.467$), indicating that bank accounts may primarily influence the channel rather than the decision to save.

Financial literacy exhibits a consistent negative relationship across both outcomes. Adults with above-median literacy are significantly less likely to save in any form (OR = 0.551, $p < 0.001$) or to use semi-formal/community formal channels (OR = 0.508, $p < 0.001$). These results suggest that higher financial knowledge may reduce reliance on precautionary or semi-formal saving, possibly because literate individuals have greater capacity to smooth consumption, access alternative financial tools, or perceive less need for community-based mechanisms.

Neither gender nor urban residence shows statistically significant effects in either model (all $p > 0.20$). The odds ratios are close to unity and the confidence intervals include 1, indicating no independent influence of these demographic factors after controlling for financial inclusion variables.

The models are highly significant overall ($p < 0.001$ for both), confirming that financial inclusion indicators particularly active mobile money use and bank ownership explain meaningful variation in saving behaviour. The stronger effects on semi-formal saving underscore the importance of digital and community-based channels in formalising saving practices among Ugandan households.

4.6 Discussion of Findings

The findings of the empirical analysis in the above sections give important information with regard to the correlation of financial inclusion and the household saving behaviour in Uganda. This discussion not only interprets the most important of the findings in the light of the objectives of the study, but also places them in the context of the existing literature and points out the implications of the findings on policy and practice.

The initial aim was to explore the relationship between the access and distance of formal points of access to financial services and the amount and frequency of household saving. The descriptive results show that the traditional banking infrastructure is still poorly penetrated (15.75%), which is consistent with national reports that there is low coverage of the traditional banking infrastructure, particularly in the rural areas. The ownership of the bank account did not significantly predict the overall saving participation ($OR = 2.185, p < 0.001$) in the multivariate models, but the effect was rather significant, and had positive impact on the use of semi-formal or community formal saving channel ($OR = 2.185, p < 0.001$). This suggests that the bank accounts may not be the determinant of whether one will save but they will help in the transition towards the more formal and semi-formal processes. The small general effect is comparable to previous studies in Sub-Saharan Africa the researchers hold that physical access is not sufficient in order to promote saving without complementary decisions on usage, and trust on institutions.

The second objective explored the impact of the use of digital financial services on the formalisation of household saving. The most influential predictor in both models was the use of active mobile money. Both adults currently using mobile money were almost five times more likely to save in some form ($OR = 4.670, p < 0.001$) and three times more likely to use semi-formal or community formal channel ($OR = 3.713, p < 0.001$). These considerable and extremely meaningful impacts substantiate the discontinuous nature of mobile money platforms in Uganda, where agent networks and the digital wallets have allowed the low-income and rural households to get involved in saving-like practices. The findings are in line with the past evidence in

East Africa which has found that digital financial services are not only increasing the rate of saving participation but also a move on to formalised channels through reduced transaction costs, increased convenience and ease of making small, frequent deposits.

The third objective investigated the connection between financial literacy and capability and household saving choice. The results indicate a surprising trend that above-median financial literacy is related to a lower likelihood of overall saving (OR = 0.551, $p = 0.001$) and semi-formal/community formal saving (OR = 0.508, $p = 0.001$). This is a negative correlation which was found in the bivariate and multivariate analysis. The reason could be that, the more financially educated people simply have more ability to smooth consumption, or have relied on other financial instruments (including insurance or investment), or just feel that they do not need precautionary saving via informal or semi-formal channels. This result goes against the popular belief that greater literacy levels have a homogeneous effect of encouraging saving and formalisation. Instead, it suggests that the literacy interventions should be customized based on more than the construction of knowledge, but on the basis of mitigation of behavioural barriers and stimulation of use of safe, productive saving systems.

The independent effect of gender and urban/rural residence in either of the multivariate models was not significant, which implies that these demographic factors do not drive the patterns of saving, when the measures of financial inclusion are controlled. This means that there is a degree of equity in the availability of saving opportunities in these dimensions which is likely to be enabled by the ubiquity of mobile money.

Collectively the findings suggest the existence of a predominant role of active use of digital financial services both in facilitating saving involvement and formalisation, and also describe a more complex role of financial literacy. The results contribute to the literature by going beyond measures that are based on access to highlight behavioural participation and capability limitations. They also go in line with FinScope Uganda 2023 evidence that digital innovation has increased inclusion even

at the fact that there are still challenges in converting access to secure, formalised saving practices.

CHAPTER FIVE

DISCUSSION, CONCLUSION AND RECOMMENDATIONS

5.0 Introduction

This chapter presents the discussion of findings, conclusions and recommendations.

5.1 Discussions

5.1.1 Access and proximity to formal financial service points and household savings

The empirical findings on the above sections provide valuable information on the connection between financial inclusion and household saving in Uganda. This discussion puts the important findings on the objectives of the study in perspective, contextualizes them within the body of the overall literature and identifies their implications to policy and practice.

The former aim was to establish the role played by availability and location of formal financial service points on the quantity and regularity of household saving. The descriptive statistics reveals that the formal bank account ownership is low (15.75%), which is in line with national reports that there is low coverage of traditional banking infrastructure, especially in the rural regions. The ownership of bank accounts was not a significant predictor of the overall saving participation in the multivariate models (OR = 1.168, $p = 0.467$), but had significant positive influence on the use of semi-formal or community formal saving channels (OR = 2.185, $p < 0.001$). This indicates that bank accounts might not be the motivating factor in determining to save, but they help in moving the direction towards more formal and semi-formal means. These small overall effects are consistent with the previous research in Sub-Saharan Africa, which states that physical access does not lead to saving without the use incentives, and trust in institutions.

The second aim examined how the use of digital financial services impacts on formalisation of household saving. The use of active mobile money proved to be the strongest predictor in either model. The use of mobile money by adults was almost five times more likely to save in any form (OR = 4.670, $p < 0.001$), and three and a half times more likely to use semi-formal or community formal channels (OR = 3.713, $p < 0.001$). These massive and very important impacts affirm the game-changing nature of mobile money platforms in Uganda where extensive network of agents and digital wallets have seen even low-income and rural households start to act like they were saving. The results confirm previous evidence of East Africa that digital financial services can enhance saving participation and the transition to formalised channels by lowering transaction costs, enhancing convenience, and allowing small, regular deposits.

The third goal investigated the association between financial literacy and capability and household saving choices. The findings suggest a similar and surprising pattern: over-median financial literacy was linked to reduced probability of overall saving (OR = 0.551, $p < 0.001$) as well as semi-formal/community-based official savings (OR = 0.508, $p < 0.001$). This adverse correlation was found by the bivariate and multivariate analysis. The first reason is that those who are financially more informed might be able to smooth consumption more, be able to fall back on other financial instruments (insurance or investments) or may feel less of the need to precautionary save in informal or semi-formal ways. This result disproves the popular belief that increased literacy is uniformly good at fostering saving and formalisation. Rather, it implies that literacy interventions must be oriented to develop knowledge and overcome behavioural impediments as well as promote safe and efficient saving systems.

The independent effects of gender and urban/rural residence were found to be unimportant in the multivariate models, which implies that the specified demographic variables do not dictate the saving behaviour as soon as the financial inclusion indicators are taken into consideration. This implies an element of fair access to saving prospects in these dimensions that is probably supported by the prevalence of mobile money.

Combined, the findings show the central role of active use of digital financial services in facilitating both participation in saving and formalisation, and show a more nuanced role of financial literacy. The findings add to the literature as they go beyond access-based measures and focus on behavioural engagement and ability limitations. They are also corresponding with FinScope Uganda 2023 evidence that digital innovation has widened inclusion, but the difficulty lies in converting the access into formalised secure saving practices.

5.2 Conclusion

Based on the study findings, the following conclusions are drawn:

i) Accessibility and proximity to formal financial service points, according to formal bank account ownership are not robust factors of overall household saving participation in Uganda. Thus, even though the ownership of a bank account has a positive co relation with saving likelihood, the impact is rather insignificant at a statistical level. (OR = 1.168, $p = 0.467$). However, bank account ownership greatly increases the use of semi-formal or community formal saving channels (OR = 2.185, $p < 0.001$). This implies that the conventional banking infrastructure helps more to channel the savings into formalized mechanisms than it does to trigger saving in the first place. Semi-formal and digital options in Uganda seem to be relatively more influential in saving behaviour, given that the penetration rate of bank accounts is still low, and the rural population is physically and documentatively challenged.

ii) The use of digital financial services, specifically active use of mobile money, has a positive and significant effect on both the household saving participation and formalisation of saving channels in Uganda. Adults actively using mobile money are significantly more likely to save in any form (OR = 4.670, $p < 0.001$) and to utilise semi-formal or community formal channels (OR = 3.713, $p < 0.001$). Therefore, the platforms of mobile money have been quite instrumental in encouraging saving behaviours and moving the households towards a more secure and formalised set-up. This impact may be further enhanced by strengthening agent networks, improving the reliability of platforms, and adding savings-specific features to platforms.

iii) There is a negative and significant relationship between household saving choices in Uganda and financial literacy and financial capability. Adults whose financial literacy is above median are less likely to engage in any saving (OR = 0.551, $p < 0.001$) or to use semi-formal/community formal channel (OR = 0.508, $p < 0.001$). This indicates that increased financial literacy could decrease the reliance on precautionary or group-based saving schemes, which could be because of improved consumption smooth, availability of alternative financial instruments or reduced perceived need of community-based enforcement of discipline. Thus, it is necessary to have literacy interventions beyond knowledge-building to actively assist in behavioural adoption of safe, formal saving products.

iv) All in all, financial inclusion in Uganda has a positive and significant impact on the formality of household saving channels, with active digital usage and possession of bank accounts being key drivers of semi-formal and community formal mechanisms. The mobile money ecosystem has provided a favorable environment of formalisation due to the environmental and infrastructural conditions, especially the extensive reach of mobile money. Therefore, there exists a need to capitalise on these positive conditions by incorporating specific incentives, product innovation, and complementary literacy efforts to drive saving practices to a higher level of security, volume and long-term financial stability.

5.2 Recommendations for Policy and Practice

It is here that some recommendation will be given on the basis of the respective conclusions of what should be done on the quest to increase the saving patterns of the household using improved financial inclusion programs in Uganda.

i) Financial sector regulators and policymakers should not lose track of the development and strength of digital financial infrastructure, particularly mobile money systems. The latter can be accomplished by facilitating the incentivisation of operators to guarantee the presence of reliable agent networks in rural and underserved areas, introducing or subsidising interest-bearing digital saving products, and reducing transaction costs on small deposit and withdrawal. These would be augmentations of

the high positive effect of active use of mobile money and further stimulate the formalisation and amount of household savings.

ii) Financial service providers including mobile money operators, commercial banks, microfinance institutions, SACCOs and VSLAs need to design and market user-friendly savings products that can exploit the complement between formal bank accounts and semi-formal / community formal channels. Banks might collaborate with mobile cash solutions to provide smooth connection services (e.g., automatic transfer of mobile wallets to interest-bearing accounts), and SACCOs and VSLAs are supposed to incorporate digital solutions to the records and access. Providers are also urged to think on targeted marketing and product attributes (e.g. purpose-related savings or round-up auto-saving) to transform transactional mobile money users to regular savers.

iii) Financial education programmes that should be taken by the National Financial Literacy Strategy and implementing partners (including Financial Sector Deepening Uganda, commercial banks, and NGOs) must be redesigned with the concept shifting away the delivery of basic knowledge towards behavioural change interventions. The identified negative relationship between increased financial literacy and increased saving participation needs to be explicitly covered in programmes with using practical modules on the benefits of formal/semi-formal saving, goal-setting activities, commitment devices (e.g., locked savings accounts), and peer support mechanisms. There should be interventions based on the different levels of literacy with a special focus on the promotion of safe and productive saving habits by the literate households as opposed to consumption smoothing or other tools alone.

iv) The development partners and government should capitalize on the favourable digital, semi-formal environment to increase integrated financial inclusion activities. This can be accomplished by linking financial inclusion initiatives with national programs of social protection (e.g. conditional cash transfers deposited directly to mobile wallets with savings incentives), promoting payroll-based digital savings and rewarding contribution to formal/semi-formal saving efforts in performance-based assessments or incentive plans among employees in the public sector. This would help

in transforming the favourable conditions prevailing in the long run into higher amounts of saving, greater financial capacity and accumulated wealth of households.

5.3 Recommendations for Further Research

The analysis was performed on adult Ugandans and based on cross-sectional proxies of the FinScope Uganda 2023 Survey where we focused on key financial inclusion indicators and two major saving outcomes which are: overall participation and semi-formal or community formal channels use. The discussion used the logistic regression estimates which incorporated variables of gender, living in urban areas, financial literacy and the ownership of a formal bank account and active use of mobile money. Consequently, the study could be extended to incorporate longitudinal data to trace the changes of the saving behaviour over time, or embody the instrumental variable methodology that will take into consideration the possibility of endogeneity between the financial inclusion and saving decisions.

Since the results of the current study can be applied to nationally representative adults who were sampled in the 2023 FinScope data only, the next beneficial research opportunity would be to conduct comparative analyses among particular subgroups (e.g., rural and urban households, formal and informal sector workers, different age groups e.g., youth aged 18-35). These disaggregated research studies may show that there are heterogeneous impacts that are not completely reflected in the aggregate models. The study can also be repeated in other countries within the East Africa region that have well developed mobile money ecosystems such as Kenya and those with less developed mobile money ecosystems such as South Sudan to determine the generalisability of the role of digital financial services in the formalisation of savings. Alternatively, the absence of anticipated negative correlation between financial literacy and saving involvement, and this could provide some more behavioural information to supplement the quantitative findings.

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