

SAVINGS GROUPS AND FORMAL BANKING: EVIDENCE FROM SUB-SAHARAN AFRICA (SSA) ECONOMIES

By

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DECLARATION

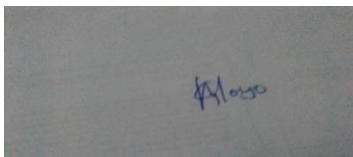
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ABSTRACT

The study aimed to evaluate savings groups and formal banking in Sub Saharan African (SSA) countries with respect to the impact of savings groups' composition and status, performance and bank-specific factors on access to formal banking by the savings groups. The study used secondary cross-sectional data (latest by 31 July 2024) for a sample of 36 SSA countries from the Savings Group Information Exchange (SAVIX) dashboard, International Monetary Fund (IMF), World Development Indicators dataset, World Bank's Global Findex and Trading Economies website. Ordinary Least Squares (OLS) regression analysis was used as an estimation method. The study revealed that, on the impact of savings groups' compositions and status on access to formal savings by savings groups, average savings per member had a negative and significant impact on access to formal savings and average loan outstanding per group had a positive and significant impact on access to formal savings by the savings groups. Bank concentration had a negative and significant impact on access to formal credit and ownership of mobile money account had a positive and significant impact on access to formal credit. Group composition and status indicators such as percentage female members per group (gender dynamics) and average number of members per group had insignificant impact on access to formal credit and savings by savings groups respectively. The study revealed that, on the impact of groups' financial performance on access to formal savings by savings groups, average savings per member, mobile phone used to send money (% 15 years and above) and average loan outstanding per group had a positive and significant impact on access to formal savings. Bank concentration, number of borrowers from commercial banks and average number of members per group had negative and significant impact on access to formal savings. On the impact of group performance on access to formal credit, bank concentration, average savings per member, bank account ownership and average number of members per group had a negative and significant impact on access to formal credit by savings groups. The group performance indicator namely return on savings had statistically insignificant impact on access to formally savings. The study revealed that, on the impact of bank- specific factor on savings, average loans outstanding per group had a positive and significant impact on average savings per member. Percentage of members with outstanding loans had a negative and significant impact on average savings per member. The study revealed that, on the impact of bank- specific factors on average loan size per

member, average savings per member had a positive and statistically significant impact on average loan size per member. All the bank- specific factors namely bank concentration, deposit interest rates, mobile money account ownership, mobile phones used to send money (% 15 years and above), bank branch network number of borrowers from the commercial banks per 1000 adults and number of ATMs per 100, 000 adults had insignificant impact on average savings per member and average loan size per member. Based on the findings of the study, it is recommended that there should be strong partnerships between banking institutions and mobile money service providers to provide savings groups with affordable formal banking products. Development actors should avail financial and digital literacy programs for savings groups to promote good financial behaviours and digital skills among savings group members.

Key Words: Savings groups, formal banking, savings linkage, credit linkage, bank concentration, bank branch network, group composition and status, group financial performance, bank specific factors and facilitating agents.

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DEDICATION

To God Almighty.

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LIST OF ABBREVIATIONS

ADB:	African Development Bank
AFID:	Alliance for Financial Inclusion Data
ARSL:	Autoregressive Distributed Ledger
ATM:	Automated Teller Machine
ATS:	Automated Transfer System
ASCA:	Accumulating Savings and Credit Associations
BRICS:	Brazil, Russia, India, China and South Africa
CBL:	Central Bank of Liberia
CGAP:	Consultative Group to Assist the Poor
CFI:	Cooperatives Financial Institutions
CRS:	Catholic Relief Services
DiD:	Difference in Difference
EFI:	Expanding Financial Inclusion in Africa
FDIC:	Federal Deposit Insurance Corporation
FISPL:	Financial Inclusion Strategy Peer Learning Group
FSD:	Financial Sector Deepening
FEVD:	Forecast Error Variance Decomposition
GDP:	Gross Domestic Product
GNI:	Gross National Income
GMM:	Generalised Method of Moments
GSMA:	Global System for Mobile Communication
IFLS:	Indonesian Family Life Survey
KYC:	Know Your Customer

MoFEA: Ministry of Finance and Economic Affairs

NGOs: Non-Governmental Organisations

NMB: National Microfinance Bank

OBUL: Opportunity Bank Uganda LTD

OIC: Organisation of Islamic Cooperation

OLS: Ordinary Least Squares

PSP: Private Services Providers

RCT: Randomised Control Trials

RCPB : Le Reseau des Caisses Populaires du Burkina

ROA: Return on Assets

ROS: Return on Savings

ROSCA: Rotating Savings and Credit Associations

RSA: Republic of South Africa

SADC: Southern African Development Community

SAFI: Sustainable Access to Finance for Investment (SAFI)

SAVIX: Savings Groups Information Exchange

SEEP: Small Enterprises Educational Promotion

SES: Socio-Economic Status

SHGs: Self-Help Groups

SLAs: Savings and Lending Associations

SOFIPIE: La Societe pour la Petite Enterprise

SSA: Sub-Saharan Africa

TORI: Trust, Openness, Realisation, Interdependence

VSLAs: Village Savings and Lending Associations

UNCTD: United Nations Conference on Trade and Development

UNCF: United Capital Development Fund

WAEMU: West African Economic and Monetary Union

CHAPTER ONE

INTRODUCTION AND BACKGROUND

1.1 INTRODUCTION

Complementing other researchers, Makina (2019) observes that the lifeblood of any economy is a competitive financial system which intermediates between the savers and the borrowers. This implies that there should be a go-between those with excess money and those who need money. This explains the importance of financial systems in financial intermediation. Various studies, such as Makina (2019), World Bank (2018), SEEP Network (2018), Mersland et al. (2019), Nakato (2021), Burlando, Goldberg and Etcheverry (2020) and Valdiva and Frisancho (2020), are in agreement that access to finance is very important to people. World Bank (2018) rural people in Sub-Saharan Africa (SSA) lack access to formal banking. This is supported by scholars such as Makina (2017), Burlando et al. (2020) and Mersland et al. (2019) who report that formal financial institutions avoid a number of people in SSA. Mersland et al. (2019) further contend that there has been growth of savings groups in SSA as a way of providing basic banking services to those at the bottom of the pyramid, who are avoided by formal banking institutions. This highlights the importance of savings groups in providing those who are shunned by formal financial institutions with basic financial services, which economically and socially empower them. Most of those who have limited access to formal banking are people of low socio-economic status (SES) and generally, low-income earners.

World Bank (2021) opines that one-third of adults who did not own a bank account in low and middle-income countries revealed that they were hindered by high costs and lack of affordability of formal banking services. Shirono, Beyene, Fareed, Loots, Quevedo and Naidoo (2024) contend that Southern Africa Development Community (SADC) countries have higher cost of using formal banking products as compared to West African Economic and Monetary Union (WAEMU) countries. The authors further opine that SADC countries experience more cost in using services such as Automated Teller Machines (ATM) transactions and in branch cash withdrawals. This implies that the costs of accessing and using formal banking products are beyond the reach of the

low socio-economic groups. This forces them to use informal financial services such as savings groups. According to the United Nations Capital Development Fund (UNCDF) (2016), low-income customers treat formal bank accounts as a mailbox in that they use bank accounts as a means of receiving their income and immediately withdraw their money and use it as cash. This implies that whenever the low-income earners have access to a bank account, they just use it as a mechanism for accessing their money and pursue their cash-based transactions, which might be their savings group activities, such as loan repayments and savings contributions. Bank accounts are used by the low-income earners as a means of getting their income and facilitating withdrawals to access cash.

1.2 OVERVIEW OF FINANCIAL INCLUSION IN AFRICA

There is an inconsistency among scholars on the definition of financial inclusion. Reis (2021) notes that financial inclusion was commonly referred to as the access and usage of financial services, and noted that the definitions of financial inclusion lack consistency. Allen et al. (2016), cited in Reis (2021) define financial inclusion as the use of formal accounts, whilst Chakravarty and Pal (2013), cited in Reis (2021), define financial inclusion as an act of removing barriers hindering the poor from accessing fair and low-cost financial services. According to Doeverten (2017), financial inclusion enables free access to and use of proper financial services for all people and businesses at an affordable cost and in a society of disadvantaged groups based on equal rights and duties. Li (2018) defines financial inclusion as access to formal financial services. Park and Mercado (2018) define financial inclusion as the process that enables easy access, availability and usage of the formal financial system for all members of an economy. This study adopts the definition of financial inclusion by Park and Mercado (2018) that observes that financial inclusion is the process that enables easy access, availability and usage of the formal financial system for all members of an economy. The financial services should not be freely accessed but should be affordable to all the members of the economy. This refutes the definition of financial inclusion by Doeverten (2017) which argues that financial inclusion is free access to and use of proper financial services for all the people. Both parties in the financial markets should benefit from their relationship. The users of financial services should access and use financial services at affordable prices whilst the financial institutions should benefit in terms of sustainability. Therefore, access and use of financial services

should not be free but affordable to every member of the economy so that there is symbiotic relationship between the financial services providers and the users of the financial services. Financial inclusion should not access to affordable financial services only. It should include the dimension of usage. This refutes the definitions by: Li (2018) who reports that financial inclusion is the access of formal financial services and Chakakravarty and Pal (2013) cited in Reis (2021) who define financial inclusion as removal of barriers hindering the poor from accessing fair and low-cost financial services. The two authors emphasised on the dimension of access and ignored that access without usage is not important. Whilst the poor can access formal financial services through opening a bank account, this is not important when the poor are not using the bank account for transacting. Therefore access, usage and affordability of financial services by the poor.

Park and Mercado (2015) argue that financial exclusion can be voluntary or involuntary. The authors opine that voluntary exclusion is when individuals themselves, due to factors such as religious and cultural beliefs, choose not to use financial services. The authors further report that involuntary exclusion is a result of factors that make individuals fail to access financial services, such as low-income, discriminatory practices in the financial markets and high-risk profiles. Some of the factors that cause involuntary exclusion may be bank-specific factors which centre around product, pricing, promotion and distribution mix strategies.

According to Wale and Makina (2017), Makina (2019) and Ngcobo (2024), among other researchers, banking development affects economic growth. The authors argued that boosting access to financial services for various population segments contributes to economic growth. This is because when people have access to finance, they can invest in productive projects, which result in economic growth. Wale and Makina (2017), Burlando and Canidio (2017), Mago and Hofisi (2016) and Allen, Dermiguc-Kunt, Klapper and Martinez Peria (2012) report that financial exclusion impedes individuals from achieving their household financial goals. The researchers note that the factors related to market failures, which consist of a lack of appropriate products, high account fees and large distances, are the drivers of financial exclusion. Allen et al. (2012) contend that financial exclusion is caused by market failure indicators such as inadequate infrastructure, problems related to the contractual environment, markets which are not competitive and obscure information.

Akileng et al. (2018) reveal that the main reason for financial exclusion in Africa is the lack of financial literacy. Akileng et al. (2018), using cross-sectional survey data on financial innovation, financial literacy and financial inclusion from Ghana, reveal that people who are financially literate are more likely to access and use formal financial services. This implies that in Africa, financial illiteracy might be the source of financial exclusion. On the other hand, Roa et al. (2019) opine that a high level of financial literacy decreases the use of informal savings mechanisms and that financial literacy positively affects holding formal banking products. This is in line with prudent finance, which states that financial literacy improves the financial behaviours of people. The implication is that when savings groups are provided with financial literacy and education programs, they improve financial behaviours, which can promote their linkages to formal banking.

This is supported by Begley, Gurun, Purnandam and Weagley (2020), who argue that people mainly in rural areas lack access to credit facilities because of a lack of loan guarantees and collateral. Formal microfinance is still elusive to the rural poor (Longborg and Rasmussen, 2014; Lowicki–Zucca et al., 2014). Nyandoro (2018), cited in Ngcobo (2024), argues that stokvels provide opportunities for low and middle-income households, excluded by formal financial institutions, to access finance. Ngcobo and Chisasa (2018a) opine that informal savings institutions (stokvels) are very efficient in providing savings platforms. This may be because of their flexibility and a sense of solidarity among the group members.

A study which was conducted by Kumar and Pradha (2024) on socio-economic and demographic determinants of financial inclusion in South Asia, with reference to the targeted population group, reveals that there is an inverse relationship between education (secondary and tertiary) and hindrances to financial inclusion. The implication is that as people become educated, some of the barriers to financial inclusion are eliminated. This is because people become enlightened about the financial products which influence their adoption and usage of financial products.

Makina (2017), among other researchers, notes that the account ownership in high-income countries is 89% of adults, whilst in low-income countries it stands at 41%. This implies that more people in developed countries own accounts as compared to those in developing countries. World Bank (2018) reports that 1.7 billion people are

failing to access formal banking services. Makina (2019), among other researchers, note that in Africa, women are the most affected by financial exclusion and that 80% of the financially excluded people around the world are from Africa. According to Global Findex (2021), it is observed that in Africa, the income status of the nation determines access to formal banking, and financial exclusion is more rampant in low-income African countries, where account ownership is about 34% of the adult population. African countries with high-income status, such as Libya, Gabon, Algeria, Botswana and South Africa, enjoy a fair share of formal banking access in Africa, with account ownership by the adult population of around 66%. This implies that Africa has the highest level of financial exclusion, and the low-income African countries have higher financial exclusion than their upper-middle-income counterparts. Table 1.1 below shows account ownership of different regions in the world.

Table 1.1: Adult account ownership in a banking institution or any other form of financial institution (%age 15 years)

	Account Ownership by Adults. Year 2021
World	76%
East Asia & Pacific (not high-income nations)	81%
Europe & Central Asia (not including high-nations)	78%
Latin America (not including high-income nations)	73%
Middle East & North Africa (not including high-income nations)	48%
South Asia (Not including high-income nations)	68%

Sub-Saharan Africa (Not including high-income nations)	55%
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Source: Researcher's own compilation from World Bank Global Findex databank (2021)

Per World Bank Global Findex data (2021), the global average for account ownership of people with 15 years and above is 76%. East Asia and Pacific (Not including high-income nations) and Europe & Central Asia (not including high-income nations) have account ownership of 81% and 78%, respectively, and they exceeded the world average account ownership of 76% in 2021. This implies that many people in East Asia & Pacific and Europe and Central Asia are financially included. Latin America (not including high-income nations) has 73% account ownership, 3% below the world average of account ownership. In 2021, the Middle East and North Africa (not including high-income countries), South Asia (not including high-income nations) and Sub-Saharan Africa (not including high-income countries), respectively had 48%, 68% and 55% account ownership by people with 15 years and above. The account ownership in Sub-Saharan Africa, South Asia and the Middle East & North Africa is far below the global average of 76% and implies that many people do not have bank accounts. Table 1.2 depicts the proportion of people who save in banking institutions or through mobile money.

Table 1.2: Proportion of the adult population who saved in banking institutions or through mobile money (% age 15+) in 2021

	Proportion of the adult population who saved in banking institutions or through mobile money (% age 15+) in 2021
World	29%
East Asia & Pacific (Not including high-income countries)	39%
Europe& Central Asia (not including high-income countries)	13%
Latin America (not including high-income countries)	17%
Middle East & North Africa (Not including high-income countries)	11%
South Asia (not including high-income nations)	11%
Sub-Saharan Africa (not including high-income nations)	16%

Source: Researcher's compilation from World Bank's Global Findex databank (2021)

Globally, an average of 29% of people (aged 15 years and above) have saved their money in financial institutions or used mobile money. East Asia and Pacific (not including high-income nations), with 39% of people aged 15years and above saving in financial institutions, is the only region which exceed the 29% global average of saving in formal financial institutions or mobile money in 2021. Europe and Central Asia (middle and low income), Latin America (not including high-income countries), Middle East and North America (not including high-income nations), South Asia (excluding high-income nations) and Sub-Saharan Africa (not including high-income nations) have 13%, 17%, 11%, 11% and 16% respectively of people aged 15 years

and above who saved through financial institutions and mobile money services in 2021. This implies that formal savings in Europe & Central Asia (excluding high-income countries), Latin America (middle- and low-income countries), the Middle East and North America (middle and low income), South Asia (middle- and low-income countries) and Sub-Saharan Africa (not including high-income nations) fall below the global average. This indicates that the majority of the population with 15 years and above in those regions use informal savings mechanisms. Table 1.3 depicts borrowing via formal financial institutions and mobile money services.

Table 1.3: Borrowing via formal financial institutions or mobile money services (% age 15+) in 2021

	Borrowing via formal financial institutions or mobile money services (% age 15+) in 2021
World	29%
East Asia & Pacific (not including high-income nations)	33%
Europe& Central Asia (not including high-income nations)	29%
Latin America (not including high-income nations)	31%
Middle East & North Africa (not including high-income countries)	11%
South Asia (not including high-income nations)	12%
Sub-Saharan Africa (not including high-income nations)	14%

Source: Researcher's compilation from World Bank Global Findex databank (2021)

The global average of people aged 15 years and above who borrowed using formal financial institutions and mobile money services is 29%. Three regions, namely East Asia and Pacific (not including high-income nations), Europe and Central Asia (not including high-income nations) and Latin America (not including high-income nations) have 33%, 29% and 31% respectively of people aged 15 and above who borrowed through formal financial institutions or mobile money services in 2021. This implies that these three regions have an above the global average of people aged 15 years and above with access to formal credit. The other three regions, namely Middle East & North Africa, South Asia and Sub-Saharan Africa, had 11%, 12% and 14%, respectively, of people aged 15 years and above who borrowed through formal financial institutions and mobile money services in 2021. Per the above statistics, access to formal credit is very low in the three regions because the respective percentages of people who borrowed through formal financial institutions and mobile money are far below the global average of 29%. Thus, one can safely infer that people in the Middle East & North Africa, South Asia and Sub-Saharan Africa use informal credit sources which are inherently risky and exploitative.

Kopel (2020) reports that 75% of people in Papua New Guinea (PNG) are financially excluded. Nguyen et al. (2019) note that the results of weaknesses in the formal financial system are now manifesting as informal financial services. Nguyen et al. (2021) report that PNG has underdeveloped formal financial services that have left people with the only option of using informal financial services such as the private money lenders. Kopel (2020) opines that those who own bank accounts only use them to deposit and withdraw their savings, and they are reluctant to use additional financial services such as insurance and credit. This implies that the accounts are used as a way of withdrawing cash and for the cash to be only used in the informal system of the economy.

Therefore, people are left with no choice but to use informal financial services. Nguyen and Canh (2021) define informal finance as funding that is unsecured, small and with short maturity, obtained from relatives, private money lenders and friends. This implies that informal financial services place a repayment burden on the borrowers since the term of the loan is very short. The fact that relatives and friends provide finance under the informal financial services setting indicates that the issues of trust, social capital and the extent to which the borrower and the lender know each other are

very important. Kaile (2023) observes that informal finance is not regulated, and its transactions operate outside the formal financial system. Lack of regulation of the informal financial services might be risky in that it opens the doors for the abuse of each party to the loan transaction. The borrowers might be charged exorbitant and exploitative interest. The borrowers may also suffer from unfair repayment enforcement practices since there is no regulator to protect the rights of the borrowers.

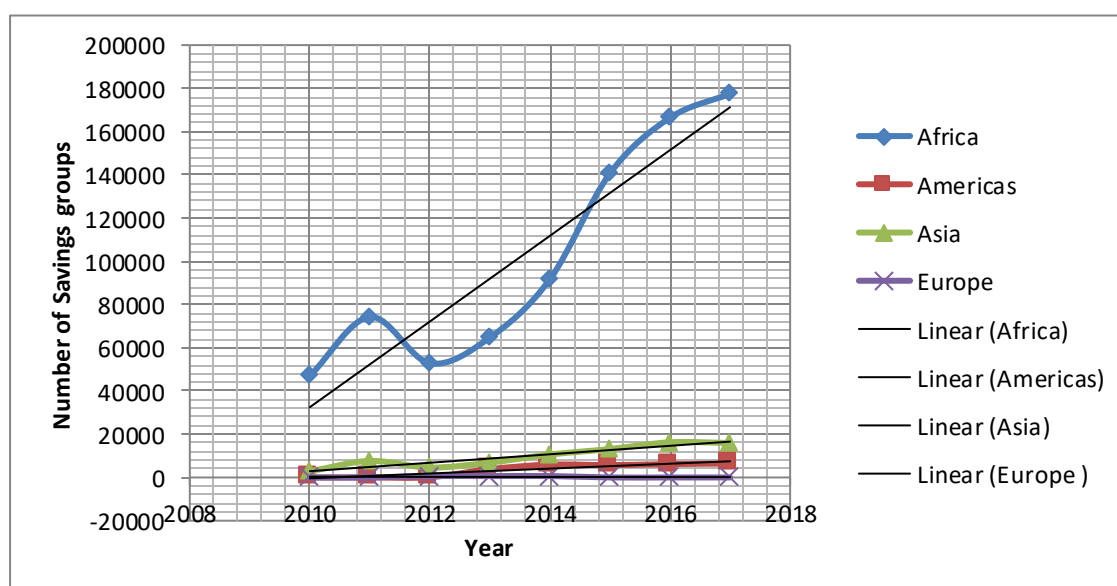
Kalie (2023) reports that money lenders charge exorbitant and exploitative interest rates of between 30% and 50% and the repayments are done within a very short period, usually at the end of a fortnight. This implies that the borrowers, because of the desperation for financial services, are cornered by the money lenders to agree to unfair lending terms to access financial services. Kaile (2023) contends that the lending agreement in the informal financial services set-up is mainly verbal in nature. This implies that most of the time, lending activities may lack proper documentation and records, which might lead to the exploitation of each party in the future. Kaile (2023) further opines that lending is based on trust and the fact that the borrower is known by the lender.

According to Kartal (2019), loan sharks (mashonisa) in South Africa are known for bad practices and they have been labelled as cruel, ruthless, devil, scary, unpredictable and thieves. The author further contends that despite the fact that the loan sharks charge the same interest rates as banks and stokvels, loan sharks are dangerous and are used as a last option to access finance. This implies that financial exclusion causes desperation for financial services among individuals. This leaves the poor in the hands of some of the informal financial institutions, such as loan sharks that are ruthless and exploitative, leaving individuals in debt and poverty. This is supported by Mashigo (2012) who argue that in South Africa as a result of limited access to formal banking, people are left to depend on the informal institutions such as micro-lenders and Rotating Savings and Credit Associations (ROSCAs). The author further opines that some of these formal financial institutions such as micro-lenders (uMashonisa) charge exorbitant interest rates between 30% and 60%.

1.3 OVERVIEW OF SAVINGS GROUPS IN AFRICA

Mersland et al. (2019) opine that savings groups are prevalent in developing countries, particularly, Africa, due to limited access to formal financial services. SEEP Network

(2016) affirms that savings groups consist of 15-30 members who are self-selected. This implies that joining a savings group is voluntary. Members make regular savings and borrow from the fund created by the group at an agreed interest rate (SEEP Network, 2016). The fact that savings group members are self-selected indicates that savings groups are made up of people who pursue a common objective. Savings groups have an operating cycle of often one year, and after the cycle, the members share the fund based on how much each member has saved (SEEP Network, 2016). According to Dupas and Robison (2011), savings groups enhance access to formal financial services. According to SEEP Network (2016), cited in Nakato (2021), it is estimated that facilitated savings groups in Africa have over 14 million members and control assets estimated to range from US\$430 million to US\$1.2 billion. This implies that many people participate in savings groups in Africa, and they own large amounts of assets, which, if they are linked to formal banking, can contribute to the economic development of the nations. Figure 1.1 shows the regional distribution of savings groups globally.



Source: Mersland et al. (2019)

Figure 1.1: Regional distribution of savings groups

According to Figure 1.1, Africa has experienced a rapid growth in the number of savings groups from 46,970 in 2010 to 177,486 in 2017. The Americas has also

experienced growth in savings groups from 0 in 2010 to 6,430 in 2017. Asia has also experienced a significant growth in the number of savings groups, from 2,845 savings groups in 2010 to 15,948 in 2017. Europe only experienced growth in savings groups from 2011 to 2014. From 2015 to 2017, there were no savings groups that were recorded in Europe. This might be a result of the availability of many formal financial institutions, which might have enabled people to use formal financial products instead of savings groups. The figure shows clearly that Africa has experienced rapid growth in the number of savings groups from 2010 to 2017. Lack of access to formal banking justifies the increase in the number of savings groups in Africa from 2010 to 2017. Table 1.4 below shows the location of savings groups.

Table 1.4: Location of Savings groups in Africa

	Frequency	Percent (%)
Eastern Africa	114,759	50.14
Western Africa	102,250	44.68
Northern Africa	5,983	2.67
Southern Africa	3,256	1.42
Central Africa	2,615	1.14

Source: Mersland et al. (2019)

As depicted in Table 1.4, savings groups are mainly concentrated in Eastern and Western Africa. Northern, Southern and Central Africa have few savings groups as compared to other regions in Africa. Table 1.5 shows the rural-urban distribution of savings groups.

Table 1.5: Distribution of Savings Groups with Regional Location in Africa

	Frequency	Percent (%)
Rural	133,939	64.6
Rural + Urban (peri-urban)	68,781	33.2
Urban	4,533	2.2
Total	207,253	

Source: Mersland et al. (2019)

Table 1.5 indicates that there are more savings groups in rural areas as compared to rural-urban and urban areas. Le Polain et al. (2018) observe that savings groups are an avenue for people in rural areas to access financial services. This was supported by Sinclair and Singh (2015), who stated that savings groups enable the hard-to-reach rural population to access financial services. Gashaye and Singh (2016) observe that banks are mainly concentrated in urban areas. The authors found that in Ethiopia, Addis Ababa, the capital city, account for 34% of the bank branches. This implies that the rural population is ignored by the formal financial services providers with operations in Ethiopia. This is in agreement with the views by Makina (2019), Nakato (2021) and Mago and Hofisi (2016) that formal financial institutions fail to meet the needs of the poor. Thus, savings groups are established mainly in rural areas so that they provide financial services to the excluded rural population. Lack of adequate formal financial services in rural areas may justify the high number of savings groups in rural areas of Africa. Collins et al. (2009), cited in Valdivia and Frisancho (2020), are of the view that rural people are financially excluded and fail to manage idiosyncratic risk and seasonality. Karlan et al (2014), cited in Valdivia and Frisancho (2020), argue that formal financial institutions are absent in rural areas as a result of transaction costs and high screening. Valdivia and Frisancho (2020) contend that rural people tend to use informal sources of finance to satisfy their needs for financial services.

Nakato (2021) contend that savings groups are flexible and reach out to many financially excluded people at a minimum cost. This implies that in many instances, savings groups are tailored to meet the needs of people who cannot access formal financial services. Nevertheless, the researcher believes that even when low-income

earners try to make savings through mainstream banking, the impact on their financial well-being is minimal because of little savings, hence, the reason they would prefer savings groups with high interest on their savings, which compounds and yields a substantial amount of money at the end the group's cycle, often one year. Thus, the assertion that people of LSE and low-income earners are not considering formal banking in the near future, which explains the increasing interest in social clubs or savings groups. Brunie, Fumagali, Martin, Field and Rutherford (2014), cited in Frolich and Nguyen (2020), argue that savings groups in Malawi, Mali and Mozambique have improved the livelihoods of people. The authors argue that savings groups have improved expenditure for their members, food security and consumption. This indicates that savings groups have improved the standard of living of their members. Gash (2017), Gash (2013) and Noggle (2017) agree that savings groups improve the ability of their members to accumulate assets and, hence a pathway for poverty eradication.

Jahns-Harms (2017) observes that savings groups help rural people to properly manage seasonal funds, leading to the smoothening of consumption in periods when there is starvation. Bjorvatn and Tungodden (2018) and Steinert et al. (2017) concur that savings groups help in empowering the disabled and give the members the means to invest their funds. This highlight that members are empowered through participating in savings groups. Brewer and Gardner (2020) and Karlan, Ratan and Zinman (2014) agree that savings groups improve wealth creation and the ability of members to withstand shocks and disasters.

Makina (2019) argues that limited access to formal banking in Africa is caused by an institutional void. Despite the role of microfinance in providing the poor with banking services, microfinance does not satisfy the financial services requirements of the poor (Makina, 2019). This states that microfinance is failing to fulfil its mandate of saving the core poor. This might be the case of microfinance with an institutionalist approach, where profitability is the main objective of the microfinance institution, and in the end, the entrepreneurial poor get access to financial services at the expense of the core poor. This points to the fact that banks and formal Microfinance Institutions (MFIs) are failing to meet the needs of the people. Owing to a lack of access to formal financial services, people are forced to resort to informal financial services, which are risky and expensive (Karlan et al, 2017). From the above narrative, one can surmise that

savings groups are more beneficial to those who make savings and less beneficial to borrowers who have to pay a high interest on their loans. In essence, the poor pay higher interest on their loans than the rich, who have the financial advantage to access loans in formal banking.

Nakato (2021) and Mersland (2019) contend that savings groups have been used as a way of availing banking services to those at the bottom of the pyramid, who are shunned by traditional banks and formal Micro Finance Institutions (MFIs). SEEP Network (2018) observes that savings groups are capable of reaching both the poor and the ultra-poor. The author contends that the areas where there are high levels of financial exclusion are saturated by savings groups which are capable of reaching out to the poor. This is in agreement with The MasterCard Foundation (2014), which is of the view that savings groups enable the poor to have access to basic financial services. This implies that savings groups are the foundation upon which those at the bottom of the pyramid start to know and access financial services.

Even though savings groups provide financial services to the poor, there is no doubt that savings groups should be linked to formal banking. Burlando, Goldberg and Etcheverry (2020) highlight the importance of linkages of savings groups to formal banking. The authors argue that savings groups benefit from linkage to formal banking in that formal banking provides security to the savings and access to bigger loans. However, Burlando et al. (2020) also note that despite the benefits to savings groups of linkage to formal banking, there are costs which are incurred by savings groups to access the nearest bank branches. The cost to travel to the nearest bank branch makes savings group members reluctant to embrace formal banking.

According to Burlando et al. (2020), SEEP Network (2016) and CARE in East Africa (2016), SSA countries such as Uganda and Kenya have experienced linkages of savings groups to formal banking. Despite the increase in the number of savings groups in SSA countries, there is little, contradictory and inconclusive evidence on the linkages between savings groups and formal banking in economies in SSA. To the best knowledge of the researcher, various studies which have pointed to savings groups –formal banking linkages for example, Burlando et al. (2020), SEEP Network (2016) and CARE in East Africa (2016), Galpertri (2018), Frolich and Nguyen (2020), Ranyard (2018), Nakato (2021), Mersland et al. (2019) and Rippery (2017) have

contradictory and inconclusive views on the savings groups and formal banking. The studies are not clear on the impact of saving groups' financial performance, composition and status of savings groups and formal bank-specific factors on access to formal banking by savings groups in SSA.

This study departs from other studies which have been done on savings groups and formal banking by focusing on linkages between savings groups and formal banking concerning the impact of savings groups' financial performance, composition and status of savings groups and formal bank-specific factors on access to formal banking by group members in SSA countries.

1.4 STATEMENT OF THE PROBLEM

Various scholars, such as Makina (2017), Begley et al. (2020) and Weagley (2020) report that the majority of the population in Africa is failing to access formal banking. Makina (2017) observes that the account ownership in high-income countries is eighty-nine percent (89%) of adults, whilst in developing countries it is forty one percent (41%) of adults. Dermirguc-Kunt, Klapper, Singer, Ansar & Hess (2018) opine that the majority of the population around the world is failing to access formal banking. The authors observed that 1.7 billion people have no access to formal financial services. This implies that well-established and formal banking institutions avoid those at the bottom of the pyramid. The poor end up using informal financial services, which are risky, exploitative, unreliable and exorbitant in terms of interest on loans. This might compromise the goals of various governments in SSA of improving financial inclusion, eradicating poverty and fostering economic development. Savings groups are believed to be a solution to the financing problems faced by the poor in SSA (Mersland, 2019). Mersland (2019), SEEP (2016) and Nakato (2021) view savings groups as being a pathway for the empowerment of the poor and hence the need for the savings groups to be linked to formal banking. Various studies have been conducted on the savings groups and formal banking. However, contradictory and inconclusive evidence emerges. To the best knowledge of the researcher, no study has focused on savings groups and the formal banking nexus in SSA countries. The consequences of not understanding savings group – formal banking linkages is that formal banking institutions may fail to understand the socio-economic status and attributes of those below the pyramid (such as savings groups members) and at the end, improper

financial products which do not address the needs of those below the pyramid maybe offered. This may put the poor into cycles of poverty and compromise poverty eradication goals of various governments in SSA countries. Failure of understanding the linkages may also result in exploitative relationships between savings groups and formal financial services providers for example in the pricing of financial products, design of the financial products, distribution channels used for the financial products and the way the financial products are promoted or made known to the savings groups. This study seeks to exploit this knowledge gap by evaluating savings groups and the formal banking nexus in developing countries in SSA. This is done by focusing on the impact of saving groups' financial performance, composition and status of savings groups and formal bank-specific factors on access to formal banking by group members in SSA countries.

1.5 HYPOTHESES

The following three research hypotheses are derived from the various debates following meticulous literature investigation. The primary focus of the study was to evaluate savings groups and formal banking concerning SSA economies.

Hypothesis 1: *Composition and status of savings groups have a significant impact on access to formal banking services by group members.*

This hypothesis is based on the fact that the composition and status of savings groups affect the extent to which savings group members have access to formal banking services. The indicators for savings groups' composition and status are the percentage of female group members, the percentage of male members in the group, the percentage of members with loans outstanding, average savings per group, average loans outstanding, and loan size per member and average number of members per group. These indicators are believed to have an impact on access to formal banking by savings group members. An examination of the impact of these indicators on savings composition and status would suffice for this stipulation.

Hypothesis 2: *Financial performance of the savings groups has a significant impact on access to formal banking by savings group members.*

This hypothesis is based on the fact that the financial performance of savings groups has an impact on access to formal banking by the group members. The indicators for

financial performance of the savings groups are Return on Savings (ROS), Return on Equity (ROE), and Return on Assets (ROA), fund utilisation rate, savings per member and average loan size per member. An examination of the impact of the financial performance of savings groups on access to formal banking would suffice for this stipulation.

Hypothesis 3: *Bank-specific factors have a significant impact on access to formal banking by savings group members.*

This hypothesis is based on the fact that bank-specific factors have an impact on group members' access to formal banking services. The indicators for bank-specific factors are lending interest rates, deposit interest rate, bank branch network, distribution of Automated Teller Machines (ATMs), bank concentration, mobile phones used to send money (% age 15+), borrowers from commercial banks (per 1000 adults) and domestic credit from the financial sector. An examination of the bank-specific factors would provide evidence on this stipulation.

1.6 RESEARCH OBJECTIVES

The following primary and secondary objectives were adopted by the study:

1.6.1 Primary Research Objective

The primary objective was to evaluate the nexus between savings groups and formal banking in SSA.

1.6.2 Secondary Objectives

To realise the primary objective, the study adopted theoretical and empirical objectives.

A. Theoretical Objectives

The theoretical objectives entailed a literature review of the following:

1. Composition and status of savings groups
2. The impact of financial performance on savings groups
3. The impact of bank-specific factors on Savings groups
4. Formal banking-savings group linkages.

B. Empirical Objectives

The study intended to:

- 1) Evaluate the impact of composition and status of savings groups on access to formal banking by savings group members in SSA.
- 2) Assess the impact of the financial performance of savings groups on access to formal banking by savings group members in SSA.
- 3) Determine the impact of bank-specific factors on access to formal banking by savings group members in SSA. The general view here is that the manner in which bank-specific factors affect savings groups in terms of loans and savings would determine the groups' and members' ability to access formal banking.

1.7 RESEARCH QUESTIONS

1.7.1 Primary Research Question

What is the nexus between savings groups and formal banking in SSA economies?

1.7.2 Secondary Questions

- 1) What is the impact of the composition and status of savings groups on access to formal banking by savings group members in SSA?
- 2) How does the financial performance of the savings groups affect access to formal banking by savings group members in SSA?
- 3) What is the impact of bank-specific factors on the access to formal banking by savings group members in SSA?

1.8 JUSTIFICATION OF THE STUDY

There is little, contradictory and inconclusive evidence among the scholars on the informal–formal financial institution linkage. Among these scholars are: Bairagga (2010), Burlando et al. (2020), Burlando and Canidio (2019), CARE (2017), SEEP Network (2018), Pagura and Kirsten (2006), Karlan et al. (2017), Oranu et al. (2020), Financial Deepening Zambia (2018) and World Bank (2018). Although studies have

been conducted on the savings groups-formal banking nexus, contradictory and inconclusive evidence emerges. The nexus between Savings groups and formal banking in SSA countries has not received much attention. Studies such as Frolich and Nguyen (2020), Burlando et al. (2020) opine that group composition and status (such as economic status of the members) and group performance determine access to formal banking by savings groups. However, on the other end CARE International (2017) and Eckholf, Kibombo, Natukunda, Pennoti and Vandergang (2019) report that Kenya and Tanzania experienced a savings group – formal banking linkage programme known as LINK UP programme with the goal of promoting access to mainstream finance to savings groups without a clear attribution of the linkage to factors such as group status and composition, institutional factors and group performance.

Some studies such as Burlando et al. (2020), CARE International and Nakato (2021), focused on how savings group – formal banking linkages affected group performance. Nakato (2021) reports that credit linkage results in low savings levels as a result of a dependence syndrome and a group losing a sense of ownership, which reduces the motive to save. However, this is in disagreement with CARE (2017) who reports that credit linkage improved group saving savings.

The study will contribute new empirical literature to the existing body of literature on the impact of saving groups' financial performance, composition and status and formal bank-specific factors on access to formal banking by group members in SSA. This will not focus on country-specific studies, but on cross-sectional data from several economies in SSA. Bridging the knowledge gap will be very important to various stakeholders. The study will have practical implications for various stakeholders in the following ways:

1.8.1 Formal Financial Institutions

Makina (2019) and the World Bank (2017) report that a significant proportion of the adult population has no access to formal banking. This study will help formal financial institutions, such as banks and regulated Microfinance Institutions, to come up with ways of serving the savings groups. Banks may come up with tailor-made products for

savings groups. This will improve the ability of financial institutions to improve financial inclusion in SSA. Banks will also be able to strike a balance between the affordability of the services they offer to the savings groups and their financial sustainability. This study will also enable formal banking institutions to roll out financial literacy programs to savings groups. This will help savings groups to improve financial behaviours and hence promote savings group–formal banking linkages. This will also create a just society, where the majority of the people have access to finance and can participate in the economic growth and development of SSA countries.

1.8.2 Savings Groups

This study would be very important to the savings groups as it would expose how status, composition and performance of savings groups and bank-specific factors affect savings groups' formal banking linkages. This would help in attracting the attention of organisations such as formal financial institutions, Non-Governmental Organisations (NGOs), Mobile Money Operators and governments in SSA and beyond to ensure that savings groups have access to formal banking. This might improve the performance of savings groups and make them resilient to economic shocks.

1.8.3 Non-Governmental Organisations (NGOs)

The study is very important to NGOs. This is because some of the NGOs are responsible for forming, nurturing and managing savings groups. The NGOs can be facilitators of savings groups- formal banking linkages in SSA. The study would help in explaining how the status, composition and performance of savings groups and bank-specific factors affect savings groups-formal banking linkages. SAVIX (2019) noted that NGOs are instrumental in the formation of savings groups in Ghana and are also responsible for facilitating linkages with formal banking. This will enable the NGOs to come up with better strategies of being a go-between for savings groups and formal financial institutions, which might lead to the linkages between savings groups and formal financial institutions.

1.8.4 Governments

The governments in SSA are very concerned about financial inclusion. They have come up with financial inclusion strategies. This study will provide information on how the status, composition and performance of savings groups and bank-specific factors affect savings groups-formal banking linkages. This will assist SSA governments to

come up with financial interventions that can strengthen savings groups and link them to formal banking. The governments can come up with policies which make it possible to link savings groups and formal banking. The government can roll out financial literacy programs that will enable the savings groups to be aware of the formal banking products and the benefits of the linkages to formal banking. The government can use the linkages between savings groups and formal banking as a tool to eradicate poverty. Governments can also partner with other development agencies, so that they form and strengthen savings groups to improve their access to formal finance and thus eradicate poverty.

1.8.5 Regulators of financial institutions

The study will be very important to the regulators of formal financial institutions, such as the central banks in SSA. From the study, the central banks will be able to notice the obstacles that are hampering savings groups-formal banking linkages. The central banks may come up with policies that promote savings groups and formal banking linkages, and be able to monitor the relationships between the two, ensuring that savings groups are not exploited by formal financial institutions in terms of interest charges.

1.8.6 Academic Society

The study will be very important to the academic society because it will help to provide new knowledge on the existing body of knowledge on the impact of saving groups' financial performance, composition and status of savings groups and formal bank specific factors on access to formal banking by group members in SSA countries.

1.9 THESIS CHAPTER OUTLINE

The rest of the study is organised as follows:

Chapter Two: Theory and empirical issues

Theories related to the nexus between savings groups and formal banking are explained. The chapter also includes a discussion on experiences and issues with savings groups and formal banking.

Chapter Three: Empirical Studies on Savings groups and formal banking

This chapter explores debates on savings groups and formal banking. The chapter discusses empirical issues. Empirical issues which are not resolved are put into context.

Chapter Four: Review of Methodological Issues

This chapter critically discusses the methodologies which have been adopted in other studies. It evaluates the measures of savings groups and formal banking that were adopted in other studies. It then goes further to evaluate the various measures of savings groups and formal banking, which can be adopted, as well as the econometric techniques which are being used to establish the relationships (the strengths of econometric approaches and their weaknesses). The chapter further explains the research paradigm and design.

Chapter Five: Research Methodology

This chapter adopts the methodological approaches in this study. Research design is explained and justified in this chapter. Data gathering techniques and sources are explained in detail. The chapter justifies the use of the International Monetary Fund (IMF), Trading Economies, SAVIX and World Development Indicators as sources of data. The chapter also justifies the selection of countries in Sub-Saharan Africa. The justification of the econometric techniques adopted was also provided. The chapter also explains how research design and econometric techniques apply to this study. Cross-sectional data for savings groups and formal banking in SSA, and the econometric techniques used, were explored.

Chapter Six: Presentation and Analysis

This chapter presents both secondary and empirical findings. The secondary data from sources such as SAVIX were analysed using econometric models that align with the research questions and hypotheses.

Chapter Seven: Empirical Findings and Discussion

This chapter discusses the findings in relation to existing literature. The chapter indicates how the findings depart from previous studies.

Chapter Eight: Conclusions and Recommendations

This chapter summarises the thesis. By using research findings, contributions and conclusions, recommendations and areas for further study were realised.

1.10 CONCLUSION

Various studies, such as World Bank (2018), SEEP Network (2018), Mersland et al. (2019) and Valdiva and Frisanco (2020), opine that access to finance is very important to any economy and is out of reach of those who are at the bottom of the pyramid. The researchers contend that most people lack access to formal banking. Thus, the excluded members of the population end up using the informal sources of finance to satisfy their financial needs. There is little, contradictory and inconclusive evidence on savings groups – formal banking linkage in SSA. This chapter sheds the background and problem setting on savings groups – formal banking linkages in SSA by evaluating the impact of savings groups' composition and status, performance and bank-specific factors on access to formal banking by savings groups in SSA.

CHAPTER TWO

SAVINGS GROUPS AND FORMAL BANKING: THEORY AND EVIDENCE

2.1 INTRODUCTION

This chapter provides in-depth information on the theoretical literature relating to savings groups and formal banking. The theories, namely, welfarist, institutionalist, capabilities and trust theories, are used to underpin savings groups and formal banking linkages. These theories are then linked to the literature, which attempts to explain savings groups and formal banking linkages.

2.2 WELFARIST PERSPECTIVE

Studies such as Hammed (2004) and Toscano (2002) have attempted to explain the welfarist theory. These researchers are in general agreement that the welfarist theory is drawn from welfare studies. Hammed (2004) opines that the welfarist theory assumes that access to financial services is a pathway to poverty eradication. Machingami (2020) reports that the welfarist approach carries a social mission of microfinance, where interest rates are kept below the market rates. The theory is based on the belief that financial services should be affordable so that they can be accessed by the poor. This implies that the financial services providers, such as Microfinance Institutions, are there to strengthen the poor to build their capabilities. This means that this approach is pro-poor, in that the core poor should have access to subsidised credit.

Interest rates should be subsidised to improve access to financial services for people. Concerning savings groups and the formal banking nexus, formal banking institutions should come up with ways which make financial products accessible to the savings group members. Formal banking institutions should strike a balance between their sustainability and access to affordable financial products by the savings groups.

According to Aslam (2018), the welfarist approach has an objective of reaching out to the financially excluded population in a way that even the poorest benefit. The implication is that financial services should be accessible to everyone, despite their economic and social status. This theory believes in equal access to financial services

for everyone. Microfinance as having a social goal to achieve (Aslam, 2018). Poverty eradication should be achieved through wealth distribution and empowerment (Haan and Lakho, 2010). Haan and Lakho (2010) contend that microfinance is an equaliser through the welfarist approach, as it should ensure that the core poor have access to financial services. Ali and Alemu (2019) highlight that the goal of microfinance is to provide financial services to the poor, thereby meeting their needs.

Johnson (2020), Bullock et al. (2020) and Rutherford (2000) support Kumari et al. (2019) and Ali and Alemu (2019) by arguing that microfinance should address the various financial problems that are faced by the poor, namely investment, life cycle and emergency needs. Barugahara (2021), Kaligis, Tewal, Maramis and Mangantar (2018), Masiyandimi (2017) and Prabhaka (2021), among other scholars, highlight that the issues that hinder the poor from accessing formal financial services are financial literacy, poverty, low income, unbearable bank documentation requirements and economic instability. A study conducted by Barugahara (2021) on financial inclusion in Zimbabwe reveals that gender inequality, financial illiteracy and lack of formal identification documentation hinder financial inclusion in Zimbabwe. Kaligis et al. (2018) report that the obstacles to access to formal banking in North Sulawesi (border of Indonesia and Philippines) are bad experience with banks, lack of business management, family, religion, unsupportive business conditions and documentation requirements by formal financial institutions. Masiyandima et al. (2017), cited in Barugahara (2021), observe that financial inclusion in Zimbabwe is determined by the geographic location of formal banking institutions, financial literacy and income. Prabhaka (2021) reveal that in the United Kingdom, the challenges to financial inclusion are pressure from the costs of living that affect households' budgeting.

Wang and Skihaden (2015), cited in Ozili (2022), report that economic and political instability hinders individuals from utilising formal financial services. Raju et al. (2021) highlight that in India, financial inclusion is hindered by high levels of poverty among the citizens, corruption, misuse of money and a poor political system. Pathrose et al. (2015) cited Ozili (2022) highlight that lack of money to save, financial illiteracy, distance to the nearest bank, unbearable bank loan documentation, limited local sources of savings and credit and unattractiveness of financial assets are the barriers to access to formal banking. Johan (2022) contends that the increased presence of money lenders makes it difficult to enhance financial inclusion in Indonesia.

Damodaran (2013), cited in Ozili (2022), highlight that lack of financial literacy, increasing poverty, lack of digital infrastructure and lack of awareness hinder access to formal banking. Cole et al. (2011) highlight that the informal sector in Indonesia is hindered from access to formal financial services due to high monetary costs and low financial literacy levels. The implication is that financial institutions should charge reasonable interest rates and offer their services to the poor to improve their economic and social statuses.

Formal banking institutions that apply the welfarist approach seek to understand the circumstances of the poor, such as financial illiteracy, low-income levels, cumbersome bank documentation, and poor budgeting and come up with proper financial products which meet these circumstances. Formal banking institutions applying the welfarist approach seek to adopt the integrated approach to financial services provision, whereby on top of the formal banking products, the poor (mainly savings group members) are provided with complementary non-financial services (plus services) such as financial education and also innovative and tailor-made formal banking services. This will help in improving the financial inclusion of the poor and promote the productive use of formal banking products by the poor. Financial services providers, NGOs and governments should design financial literacy or intervention programmes that would improve the financial abilities of the poor and enhance their access to mainstream finance. This is supported by Shreshtha and Nursamsu (2020), who observe that access to financial services by the poor requires additional incentives such as financial education and innovative financial products. Augsburg et al. (2015) are of the view that a small credit can go a long way in sustaining the businesses of the poor.

The role of NGOs and Financial Services Providers (FSP) providers in providing plus services to the savings groups to promote savings groups – formal banking linkages (Nakato, 2021). Banking institutions which apply welfarist approach are not profit oriented and they seek linkage to those at the bottom of the pyramid such as savings groups as a way of promoting social goals and hence they design proper marketing mix strategies (product, pricing, promotion and distribution strategies) that matches the circumstances and the need of the poor and also capacitating the poor to get the best out of the poor.

Kikkawa and Xing (2014), cited in Shreshtha and Nursamsu (2020), observe that the Indonesian government implemented the strategies to improve access to formal finance by poor households and SMEs by providing no-frill bank accounts, encouraging commercial banks to set up bank branches and installing more automated teller machines, financial deregulation, financial identity programmes and education. This implies that the intervention provided by development agencies such as NGOs, government and formal financial institutions is very important in ensuring that the poor have access to tailor-made and affordable formal financial products.

Creedy and Hoany (2015) and Chitimina (2020) agree that microfinance has the role to fill the gap between the poor and FSPs. Therefore, the poor should have access to affordable financial services, where affordable interest rates are charged. Aslam (2018) noted that Grammeen Bank in Bangladesh practised the welfarist approach as it worked with the government and donors to enable people to have access to affordable financial services.

Karlan et al. (2014) and Collins et al. (2009) explain the absence of formal financial institutions in rural areas and state that the usage of formal financial products remains low even in the presence of financial institutions in rural areas. Limited usage of formal financial services is caused by a lack of flexibility and high charges (Karlan et al., 2014). Low levels of financial literacy among the poor and biases faced by the poor in accessing financial services result in the low uptake of formal financial services (Bauchet et al., 2011). Scholars such as Makina (2019), Makina (2017), Nogueira (2020), Brihaye et al. (2019) and Srnec and Svobodova (2009) highlight that microfinance arose as a result of the failure of financial markets to provide financial services to the poor. The authors argued that the grounds for the failure of financial institutions to provide services to the poor were high transaction costs and information imperfection. This is supported by Bachas et al. (2016), Karlan and Morduch (2010), Guiso et al. (2009) and Allen et al. (2012), who note that lack of knowledge of financial products and lack of trust, culminate in the low uptake of financial services by the poor, even in the regions where bank branches are available.

Information asymmetry, high transaction costs and market failure are among the reasons why financial services providers avoid the poor (Xu et al., 2019). Thus, the welfarist approach tries to come up with a model where the core poor have access to

cheap and subsidised credit. The implication is that the poorest should access financial services and participate in economic and social activities. Therefore, savings groups should serve as intermediaries or support systems that enhance access to mainstream finance by the poor, to improve financial well-being. The savings groups should be linked to formal banking so that the poor enjoy the benefits of mainstream banking. Burlando et al. (2020) and Forlich and Nguyen et al. (2020) note that savings groups benefit from formal banking linkages in that they will have security of their funds and also can balance liquidity surplus and deficiencies. Burlando et al. (2020) contend that access to formal banking by savings groups will enable them to have access to huge loans, and this might increase loanable funds in the group.

2.3 INSTITUTIONALIST PERSPECTIVE

Scholars such as Soars and Melo (2008) and Nitin and Tang (2001) explain the institutionalist theory. The theory views financial institutions as having an objective of maximising profit (Nitin and Tang, 2001). Financial institutions come up with pricing mix strategies for their products to maximise profit. Interest rates exceed market rates (Soars and Melo, 2008). Cost covering and profit margin are at the centre of financial products pricing decisions. The implication is that the banking institutions that apply the institutionalist theory deal with viable savings groups (Nitin and Tang, 2001). The savings groups should have an attractive status, composition and financial performance to access financial services. The plight of the savings groups is not a concern of the banking institutions. The banking institutions seek to maximise profit from their dealings with savings groups. A financial institution seeks to serve the entrepreneurial poor rather than the core poor. This means that those savings groups which have an unattractive status and composition and poor financial performance will have problems accessing formal banking products such as loans and savings systems. Financial institutions treat the provision of financial services as a business which should be viable, leading to their sustainability. Given their drive for profitability, they need to be linked with savings groups to provide viable services. Therefore, savings groups linked to formal financial institutions and applying the institutionalist approach should exhibit the following attributes:

- Sound financial performance, which is indicated by good return on savings, good profitability, huge savings, good fund utilisation rate, high assets value

and low liabilities, and good loan portfolios (Burlando et al. (2020), Burlando and Canidio, 2017, Nakato (2021) and Mersland et al. (2019)).

- Members with regular income sources are consistent in making savings and loan repayments. A stable savings group is characterised by a low dropout rate and regular attendance of meetings by members. Low drop-out rate and regular meeting attendance show that the group has active members, and this has an implication on group stability and performance, which also signifies its capabilities of meeting the demands of the financial institution that is using an institutionalist approach (Mersland et al., 2019).

Microfinance needs to sustain its operations (Aslam and Thiagarajan, 2018). Therefore, under the institutionalist approach, there is a need for microfinance to be self-sustainable. Aslam and Thiagarajan (2018) agree with Soars and Melo (2008) that profitability is the goal of microfinance under the institutionalist theory. This is also supported by Rajeev and Bhatt (2013) that microfinance institutions practising the institutionalist approach have a profit motive, which enables them to sustain their operations. The authors noted that when a microfinance institution pursues profitability objectives, it can sustain their business. Balcha and Tamare (2017) support the view that under the institutionalist approach, formal financial institutions ignore the poor by giving evidence from Ethiopia, where 90% of the population was said to be failing to access formal financial services. The authors were of the view that formal financial services providers view the poor as not fit to be provided with financial services. The rich have better access to financial services than the poor. Bassem (2012) found a neutral relationship between the profitability motive and outreach of microfinance in North Africa and the Middle East between 2008 and 2012. Bos and Millone (2015) are of the view that high levels of outreach lead to profitability. This is against the institutionalist approach, which is against outreach as it is selective, and only the entrepreneurial poor and the rich can have access to financial services.

Prymostka et al. (2020), Mhlanga and Dunga (2020) and Wokabi and Fatoki (2019) reveal that income level is among the factors which influence financial inclusion. This means that the extent to which one uses financial services is determined by whether they are rich or poor. For example, Prymostka et al. (2020) and Mhlanga and Dunga (2020) in their studies on the factors affecting financial inclusion in Ukraine and Zimbabwe respectively, agree that in both countries (Ukraine and Zimbabwe),

education level, income, distance, financial literacy, unfavourable financial institutions policies, age of the head of the household, lack of trust in financial institutions cause financial exclusion. Nsiah and Tweneboah (2023), Muria (2021) and Aracil et al. (2021) report that institutional quality has an impact on financial inclusion. Nsiah and Tweneboah (2023) conducted a study on what determines financial inclusion in Africa using a sample of twenty (20) countries and applying the Ordinary Least Squares Method and General Method of Moments (GMM), revealing that institutional quality, domestic credit to the private sector and Gross National Income (GNI) per capita significantly determine financial inclusion.

Muria (2021) conducted a study on how institutional quality affected financial inclusion using annual data from 120 countries (emerging and developing countries) for the period between 2004 and 2019, and reported that the rule of law and regulatory quality had a significant influence on financial inclusion. This implies that the quality of governance of both savings groups and formal financial institutions has an impact on the savings groups-formal banking linkages. From the view of Prymostka et al. (2020), Mhlanga and Dunga (2020), Muria (2021) and Aracil et al. (2021), institutional quality is the common factor which hampers financial inclusion. This implies that governance of the financial institutions might have an impact on access to formal financial services by the savings groups. On the other hand, Chandio et al. (2018), Saqib et al. (2018), and Kiplimo et al. (2015) report that factors such as income, education level, household size, land size and nature of occupation determine access to credit by smallholder farmers. Camara and Tuesta (2014) and Sarma (2008), all cited in Mhlanga and Dunga (2020), reveal that quality dimension, costs, access and availability determine financial inclusion.

World Bank (2016b) and Zins and Wells (2016) observe that people in Sub-Saharan Africa are poor and live on average, \$1.90 a day or less. The authors note that survival and food are the priority of the poor segment of the population in SSA, and hence, the survival needs are prioritised ahead of financial inclusion. The authors stated that people in SSA lack access to financial services because of a lack of money. Hence, one can safely infer that financial institutions which apply the institutionalist approach cannot serve the core poor, who do not have enough money to sustain the use of formal financial services.

Low-income earners who use their money for survival rather than savings are very sensitive to the cost of financial services. Thus, financial institutions with a high profitability objective might not be desirable in SSA. According to the World Bank (2016b) and Zins and Wells (2016), the majority of people are poor and earn little, which explains why they live on \$1.90 or less daily. This implies that savings groups operating with very poor members would perform less, subsequently affecting their mobilisation for savings and the members' ability to repay loans. Burlando et al. (2020) note that savings groups tend to be formed by members of a similar socio-economic class. The authors opine that those poor members of society tend to have their own savings, and a similar scenario with rich members of society. Ibrahim (2019) and Lorencetti et al. (2021) opine that savings groups are voluntary associations. This implies that the members are not forced to join the group. The social ties and similar economic status enable them to join savings groups.

Han et al. (2020) and Panman et al. (2022) opine that savings groups are community-based and members share a common goal of meeting unsatisfied financial needs and pool together money with the intention to reap from the synergistic benefits. Gonzalez et al. (2021) and Panman et al. (2022) indicate that savings groups are financial inclusion tools targeting low-income segments of society. Flax et al. (2019) opine that savings groups mainly consist of marginalised women due to exclusion. Alesane et al. (2020) also highlight that unemployed urban men also join savings groups. This implies that savings group membership is dominated by low-income people and marginalised segments of society, such as women. Flax et al. (2019) report that the communal nature of loan disbursement among the members is based on the knowledge of a member by other group members.

Kim (2020) notes that social ties characterised by tribe or ethnic groupings, similar occupation and sharing community space characterise savings group membership or formation. Acquah and Dahal (2018) and Abaho et al. (2022) observe that social and economic determinants motivate participation in savings groups, but social needs are the main determinants of participation. Sedai et al. (2021) highlight that participation of people in savings groups is driven by the zeal of the people to improve their income by saving and accessing loans for their households, agriculture and entrepreneurial activities. Cassidy and Fafcamp (2020) opine that inadequate access to formal financial services due to low income pushes people to participate in savings groups.

Cassidy and Fafcamp (2020) note that it is not always the need for credit that enables people to participate in savings groups, but savings groups are used as commitment savings. Landman and Mthombeni (2021) argue that savers explore the solutions that will encourage them to save regularly. Boman et al. (2019) report that participation and savings compliance is driven by peer pressure in savings groups.

Under the institutionalist approach, financial institutions are risk-averse, implying that they become stricter when dealing with poor savings groups. This hampers access to financial services by the poor and discourages savings groups from formal banking linkages. The above authors noted that policies that seek to promote financial inclusion should incorporate the need for survival and food security for the poor. A study conducted by Beck, Samuel, Issa and Thouraya (2011) in Africa using data from the World Bank Enterprise Survey, suggests that the main reasons why people in Africa do not apply for loans are high collateral requirements, cumbersome application procedures and high interest rates. This insinuates that formal financial institutions put stringent requirements which make it difficult for the poor to access financial services.

Duwal (2015) note that microfinance institutions, except the government-initiated ones, were financially sustainable. This implies that the microfinance institutions that used the institutionalist model were financially sustainable compared to those that used the welfarist model. This is supported by Adair and Berguiga (2014), who highlight that there was an inverse relationship between social performance and financial performance of microfinance institutions, implying that microfinance institutions that apply the institutionalist approach perform better than those that apply the welfarist approach.

2.4 TRUST THEORY

The trust theory was developed by Gibb and Gibb between the 1950s and 1960s. The theory is based on three assumptions as follows:

- Fear cripples the growth and development of persons, individuals and groups. This is supported by the views of Bouman (1977), Aliber (2000), Dercon, De Weerdt, Bold and Pankhurst (2006), cited in Mersland et al. (2019), who raised fears about savings groups and formal banking linkages. The authors opined that savings groups and formal banking linkages need to be done with care.

Nakato (2021) raised the fears of savings groups' destruction through the linkages to formal banking by stating that linkages destroy social cohesion, flexibility and adaptability of savings group members. This implies that saving groups might have a low level of trust in formal banking institutions because of the fear of perceived loss of social cohesion, flexibility and their adaptability.

- There is an inverse relationship between fear and trust. This implies that savings group members are afraid and lack confidence in the formal banking institutions; their level of trust in formal financial institutions is low, and they can be discouraged from using formal banking products. When fear is high in formal financial institutions about serving savings groups, the formal financial institutions become sceptical in providing their services to the savings groups, and this compromises linkages between savings groups and formal banking. This is supported by the evidence of Isoke et al. (n.d), who report that Opportunity Bank Uganda LTD (OBUL) used the financial performance of savings groups as a way of giving them loans. This shows little trust and confidence (risk-aversion) in dealing with the savings groups, and hence the need for strict loan disbursement measures.
- There are four structural concerns which are central to group formation, namely, Trust, Openness, Realisation and Interdependence (TORI).

When the group members resolve the four concerns, namely Trust, Openness, Realisation and Interdependence (TORI) as indicated by the Trust Theory, savings group formation takes place. Trust is the fundamental concern. Trust theory states that trust is a foundation for the functioning of human systems. This implies that it is the basis upon which all the spheres of life, for example, work, family and friendship are built. The same applies to the savings groups; for cohesion among savings group members to occur, there is a need for trust among group members. Trust lies in a continuum from high fear and high trust. In any organisation, trust is very important to ensure that people cooperate and work together. Trust theory is very important in shaping savings groups and formal banking linkages. Karlan, Ratan and Zinman (2014) observe that there are barriers to savings, especially for the poor, because of a lack of trust, regulatory barriers and transaction costs. The authors note that the supply of savings products is hindered by a lack of trust, regulatory barriers and transaction costs. According to Guiso et al. (2004) and Coupe (2011), trust has an

impact on the adoption and usage of formal financial services by low-income earners. Studies by Guiso et al. (2004) in Italy and Coupe (2011) in Ukraine, using survey data which was taken from FINREP, Ukraine, found that due to a lack of trust in the formal banking institutions, low-income earners prefer to save their money at home rather than in formal bank accounts. This is in line with Djankov et al.'s (2008) study conducted in Mexico. For a sample of 4,765 Mexicans, consisting of 2,182 non-bank account holders and 2,583 bank account holders, the study revealed that one of the factors which hindered people from using a bank account was a lack of confidence in the banking institutions. La Porta et al. (2002), cited in Karlan et al. (2014), observe that the government has a role in establishing and maintaining clients' trust in formal financial institutions.

Trust is very important in savings groups and their association with formal banking because it builds cohesion of savings groups and symbiotic relationships between savings groups and formal banking. Enimu et al. (2021) report that there is a lack of trust within savings groups between gender classes (men and women). The authors observed that women do not trust male members, as males are associated with defaults; this has an impact on the performance of the savings groups and their linkages to formal banking. This implies that female savings group members have a high fear of male members, and they might not be willing to give them loans for the fear of default and which compromises performance in terms of return on savings and the extent to which the savings groups are attractive candidates for formal banking. Everyone is operating within a certain magnitude of trust. This indicates that for the savings groups-formal banking linkages to take place, there should be trust that is bidirectional (both savings groups and formal banking institutions should trust and have confidence in each other).

According to Shrestha and Nursamsu (2020), poor people do not save enough. Bachas et al. (2016) and Barnerjee and Duflo (2007), cited in Shrestha and Nursamsu (2020), reveal that a lack of knowledge and trust in the formal financial institutions exacerbates inadequate savings. Allen et al. (2012), Karlan and Morduch (2010) and Guiso et al. (2009), all cited in Shrestha and Nursamsu (2020), contend that even if the formal financial institutions are available in their region, people are less likely to have accounts as a result of a lack of trust in the formal financial institutions and lack of knowledge of financial products. This implies that where there is a history of bank

failure, people are less likely to open bank accounts because they lack confidence in those financial institutions. This indicates that it is not the non-availability of financial institutions which causes a lack of access, but trust issues and knowledge of financial products determine the extent of access to formal financial services.

2.5 CAPABILITY APPROACH PERSPECTIVE

According to Fraser (2010), Amartya Sen developed the capability theory in 1980. The theory has two propositions. The first proposition is that the freedom to achieve well-being is morally important. This implies that savings groups should be linked to formal banking so that their members can improve their well-being through access to diverse formal banking products. Therefore, stakeholders need to support formal savings groups in linking with formal banking so that savings group members achieve financial well-being. The second proposition is that there is a need to understand people in terms of their capabilities so that they have the freedom to achieve financial well-being. Based on savings groups-formal banking linkages, formal financial institutions need to understand savings groups based on their capabilities. This implies that the formal banking institutions need to analyse the status, composition and performance of the savings groups to ascertain the capabilities of the savings groups and thereby provide sound bank-specific drivers to promote access to formal banking by group members. This indicates that savings groups in SSA should not be misjudged because the majority of the people are poor. Savings groups should be analysed and viewed as potential profitable entities for the smooth running of the savings groups-formal banking linkages.

Nussbaum (2000), cited in Fraser (2010), listed the five components which promote capabilities as follows:

- I. The importance of true freedom emanates from the assessment of one's capabilities. Based on the savings groups-formal banking linkages, this implies that true financial freedom of the savings groups should emanate from the assessment of the savings groups based on their composition, status and performance. Savings groups should not be assessed based on social stereotypes exhibited by some of the members. Formal financial institutions should develop a perspective on how best to serve the savings groups, what

opportunities emanate from dealing with savings groups and the best products required to serve the savings groups.

- II. Individuals differ in the way they allocate resources into valuable activities. Savings groups have different members with different attributes. Savings groups vary from one religion, region and income group to another. Therefore, the formal financial institutions should find ways of understanding the differences among savings groups and their members and the extent to which they can turn those linkages into profitable engagements.
- III. The multi-variant nature of activities should give rise to happiness. Based on the savings groups-formal banking linkages, access to formal banking products by savings groups should strike a balance between social objectives and the financial sustainability of both formal banking institutions and savings groups. Savings groups-formal banking linkages should not be exploitative to either of the two. The activities taking place in the linkages should be beneficial to both. Materialistic and non-materialistic forces should operate in a balance. A state of mutual relationship between savings groups and formal banking institutions should exist (symbiotic relationship). Nakato (2021) stated that whilst the savings groups enjoy the solution to their liquidity surplus and deficit problems as a result of linkages to formal banking, formal banking institutions enjoy access to an untapped market. Pagura and Kristen (2006), cited in Nakato (2021), stated that savings groups-formal banking linkages are beneficial to both formal institutions and informal institutions, and this leads to the expansion of rural financial services. There is a need for equality in the distribution of opportunities in the community. Makina (2019), Makina (2017), World Bank (2018) and Mersland et al. (2019) were of the view that there are inequalities in access to formal banking in SSA. This was augmented by the Global Findex databank (2021), which noted that in 2021, the world average of bank account ownership was 76%, yet in SSA, the ownership of bank accounts stood at 55%. This indicates that account ownership in SSA falls below par, insinuating the existence of inequalities in accessing financial products in SSA. Data from Findex (2017) supported this argument by stating that women are the most financially excluded, and 80% of the financially excluded people around the world are from Africa. Findex Data (2017) further highlights that there are

inequalities in access to formal banking in Africa based on the income status of the countries, with high-income status African countries such as Libya, Gabon, Algeria, Botswana and South Africa enjoying a fair share of financial inclusion in Africa, with an estimated account ownership by the adult population of around 66%.

Sen (1980) emphasises the capacity of individuals to function, and not on how they function. Per this study, the theory gives opportunity for savings groups to have access to formal banking. This is because this theory seeks to understand the capabilities of individuals. Thus, the formal FSP that applies capability theory seeks to understand both the financial and social circumstances of individuals who participate in the savings groups. The needs of the individuals are identified, and the financial products that help in optimising the capacity of the savings groups might be made available by FSP. The FSP ought to derive the best from the savings groups despite financial and social circumstances that are inherent among savings groups.

This might allow savings group members to access diversity in formal financial services, balance funds liquidity and surplus, and run profitable income-generating projects

Capabilities theory raises disagreements over the selection of participants in the institutional order (Books, 2000). The author stated that the theory is based on normative individualism and hence it suffers from the opposition that it does not involve factors such as religion, ethnicity and nationality, and is mainly based on the capabilities of people. This concurs with Ozili (2018), who observes that individuals from communities that are affected by religious teachings and cultural beliefs have no incentive or are reluctant to participate in formal banking. This shows that religious teaching and cultural beliefs might also hinder the financial inclusion of savings groups. The strength of the capability's theory is in democratic normative individualism.

2.6 CONCLUSION

Previous studies have not focused on savings groups and formal banking. The chapter reviewed the theories, namely welfarists, institutionalists, trust and capability theory,

to underpin the relationship existing between savings groups and formal banking. The theories were related to savings group-formal banking literature, with a focus on the impact of savings groups' composition and status, performance and bank-specific factors on access to formal financial services by the savings group members.

CHAPTER THREE

SAVINGS GROUPS AND FORMAL BANKING: EMPIRICAL LITERATURE REVIEW

3.1 INTRODUCTION

This chapter explores empirical literature on savings groups and formal banking linkages. Financial literature, such as Mersland et al. (2019), Nakato (2021), SEEP Network (2018), CARE (2013) and Burlando and Canidio (2015), shows that savings groups–formal banking linkages exist. This chapter discusses theoretical and empirical evidence on savings groups and formal banking linkages by looking at the impact of composition and status of savings groups, savings groups' performance and bank-specific factors on access to formal banking by savings groups.

3.2 CONCEPT OF SAVINGS GROUPS

Savings groups have been defined by various researchers differently. SEEP Network (2018) opines that a savings group is made up of between 15 and 25 self-selected people who save together and borrow from their savings. Savings groups are financial institutions that are based in the community, in which people's savings are accumulated regularly, in a common pool stored in a safe box and lent out to members who request loans (Burlando and Canidio, 2015). Le Polain, Sterk, and Nyssens (2018) report that savings groups are financial institutions based in the community, self-managed and with self-selected members who pool money in a common pool and borrow at an agreed interest rate. Savings groups are made up of between 15 to 30 members who are self-selected within the communities and who meet regularly to save (Financial Inclusion Strategy Peer Learning Group, 2020).

According to SEEP Network (2018) and The Master Card Foundation (2014), savings groups are member-owned informal groups that provide financial services to their members. The Master Card Foundation (2014) also affirmed that there is pooling of funds and lending to members from the pooled funds. This implies that the members' savings are very important in creating loans for members. The Master Card Foundation (2014) report that savings groups provide basic financial services to their members. This implies that they fill the financing gap which the formal financial

institutions are failing to fill. Savings groups develop a constitution which spells out procedures, governing structures and policies (Financial Inclusion Strategy Peer Learning Group, 2020). The Financial Inclusion Strategy Peer Learning Group (2020) notes that savings group members obtain loans from the group's savings. The researcher highlights that members borrow as needed and are charged interest on loans. Charging interest shows that there is a return or profit that the members gain from their savings at the end of each cycle. Financial Inclusion Strategy Peer Learning Group (2020) observes that in savings groups in Islamic countries, interest is not charged to members. This implies that in Islamic countries, savings group members do not benefit from the Return on Savings (ROS) as interest is not charged on the loans advanced by the group to their members. The author notes that the interest rate, maximum loan duration, social fund contribution, share price and fines system for group policies are determined by the members. It is observed that the savings groups have a social fund, which is a form of insurance to cater for emergencies such as illness. The social fund comprises fixed payments that are made at each group meeting by the members.

The fact that group members are self-selected and the group is self-managed indicates that savings groups provide flexibility to members. The members have a mutual understanding, and hence, there is trust among group members, which results in cohesion in the group. The definitions of savings groups highlight that the financial services provided by the savings groups are savings and credit. Gash and Odell (2013), SEEP Network (2018) and Burlando and Canidio (2015) concede that savings groups operate independently and in a cycle of 9-12 months, where at the end of the cycle, fees, savings and accumulated interest are shared among group members. Savings groups can come up with a new operating cycle or dissolve the group (Gash and Odell, 2013). Management and ownership of the savings groups come from the group members (SEEP Network, 2018). Gash and Odell (2013) and Burlando and Canidio (2015) observe that all the funds are shared among the members proportionately to the amount saved at the end of the operating cycle, usually one year.

The role of the savings groups is pooling of funds in the community, among trusted business partners, friends and family members and paying out the pool according to need (Redford and Verhoef, 2022). The authors noted that savings groups have

diversity in structure, organisation and purpose. The names of savings groups differ from one country to another. In South Africa, savings groups are called *stokvels*; in French-speaking countries such as Senegal, savings groups are called *tontine*; in Ghana, they are called *susu*; and in Kenya, they are associated with the manifesto for pulling together, known as *chamas* and *harambee* in Swahili. The authors opined that the savings groups are embedded in the regional, ethnic and cultural grouping of people, hence the differences in the names of savings groups across different countries.

Savings groups can be classified as facilitated savings groups and spontaneous savings groups (Mersland et al., 2019). Facilitated savings groups are formed with the assistance of facilitating agencies. NGOs are hired by facilitating agencies to mobilise and train savings groups. The authors noted that the field officers or village agents are used by NGOs to form and monitor savings groups. Village agents are not hired, whilst field agents are hired by NGOs to monitor the activities of the savings groups. Village agents are mainly the people from the community who are selected from the savings groups to form and monitor savings groups (Mersland et al., 2019). The village agents can either work for free or be given small incentives, either by NGOs or the savings groups themselves. Burlando and Canidio (2017) note that the first facilitated savings group in Africa was the Village Savings and Loans Associations (VSLA), which was introduced in Niger in 1991 by CARE. For VSLA to operate there should be an association organiser who can be an NGO staff member or a private entrepreneur who recruits and provides training to potential members from the community. After the training, the group members agree on the bylaws of the association covering issues such as interest rates on loans, length of savings cycles, value of shares and the frequency of group meetings.

According to SEEP Network (2018), Catholic Relief Services (CRS), targeted to reach more than a million members in four years under the project of Expanding Financial Inclusion in Africa (EFI). CRS trained and certified private trainers to reach out to the poor, provide training and monitor savings groups. Many savings groups in Zambia, Burkina Faso, Uganda and Senegal were created. Stuart (2017) reports that by 2017, many savings groups were trained by the Private Services Providers (PSPs) and many poor members were mobilised.

CARE had a Sustainable Access to Finance for Investment (SAFI) project in Rwanda (Gillingham, 2012). The project targeted districts and used government assessments to identify the poorest sectors of the district. The community leaders were used to identify villages with the highest concentration of the poor. Under the CARE's SAFI project in Rwanda, 89% of the savings group members were either very poor or poor (Center for Independent Research, 2010). According to Gillingham (2012), using the assessment report of CARE's SAFI project revealed that 99% retention rate of members across savings groups throughout a single cycle and a 76% membership retention rate over two years. According to Catholic Relief Services (2017a), CRS retention rate under the EFI project was between 96% and 100% over 2-3 years across four countries, namely, Zambia, Burkina Faso, Uganda and Senegal.

Mersland et al. (2019) observe that spontaneous savings groups are those savings groups which form naturally. The spontaneous savings groups spring out naturally as the people in the community observe the benefits of participating in these savings groups (Nakato, 2021). This implies that the formation of spontaneous savings groups does not require the assistance of facilitating agencies; it is just the self-selection of people to contribute towards savings and to avail credit to each other through a mutual understanding.

3.2.1. Savings Groups Structures

This section discusses in detail savings groups structures, namely Rotating Savings and Credit Associations (ROSCAs), Accumulating Savings and Credit Associations (ASCAs) and Village Savings and Lending Associations (VSLAs). Comparisons and contrasts among the three structures are done, and the best structure which should be linked to the mainstream banking is selected, and a justification for its selection is provided.

3.2.1.1 Rotating Savings and Credit Associations (ROSCAs)

Ajija and Siddiqui (2021) opine that ROSCA is an old type of savings group and dates back to 200BC. Rotating Savings and Credit Associations (ROSCA) are an agreement between people to co-operatively save a pot of capital by paying a certain amount each week or month (Zambrano et al., 2023). Yimer et al. (2018) opine that the ROSCAs are made up of people who meet for a predetermined number of times to make fixed contributions of money at every meeting and give the total available money

to one group member, and continue doing so until all members have received the total amount. This implies that at a given point in time, one member benefits from the pooled funds. There is no point where members can access loans at once; only one member can access a loan at a given point in time. This might result in a problem in that when a certain member receives money, the funds are exhausted and may not cover another member who has an urgent need for money after the funds have been given out. There are no funds which are kept in the cash box of the group, which might limit the group's ability to attend to emergencies. ROSCAs are informal financial institutions that are there around the world, where the participants contribute to a common fund and receive returns in turn (Koike, 2018).

ROSCAs are non-interest lending and are also called microloans (Lee et al., 2018). Absence of interest reflects that the members do not earn a return from their contributions. Non-interest lending on one end might have an advantage that it provides a cheap loan, but on the other hand, members are denied a return on the savings contributions. This also implies that the fund is not given a chance to grow as a result of a lack of interest. Owing to their very nature of giving one member access to the pot at a time, other members of ROSCA have to wait for a very long period of time to access the pot. This might be a disadvantage when the total amount given is denominated in a currency that is not stable and in an inflationary environment, where those who receive the pot later suffer the effects of the time value of money.

Baland, Guirking and Hartwig (2019) opine that ROSCAs differ in terms of frequency of contributions, number of members (size), process of allocating pot and amount of the contribution. ROSCAs are made up of members with different levels of income, who have different motivations (Light, 2021). Mehmood et al. (2019) report that selection of members is based on gender, proximity, financial intentions and income levels. The author further argues that the strangers can be admitted to the group based on referrals from the existing group members. ROSCAs are common among immigrants because of the challenges they face to access formal banking (Ibrahim, 2019).

Zambrano et al. (2023) report that ROSCAs have three types, namely random, fixed and bidding ROSCAs. The authors contend that the type of ROSCA is determined by the method used to allocate the pot. In a random ROSCA, members randomly

determine the order of receiving the pot (Zambrano et al., 2023). In a fixed ROSCA, the order of receiving the pot remains fixed across cycles (Baland et al., 2019). In a bidding ROSCA, the first turns are assigned to members who make big contributions (Ke and Ye, 2019). Zambrano et al (2023) opine that ROSCAs operate in a cycle that is the time period enough for all the members to receive the pot once. Once the cycle ends, the ROSCA can be disbanded or continue. ROSCAs have emerged in many countries of the world, and hence they have variations in rules, benefits and structure. This implies that since ROSCAs differ across countries, they might be dependent on factors such as religion, culture and ethnic groups of the members. Kear (2016), Onda (2021) and Orara and Wyss (2018) observe that ROSCAs from Kenya, Japan and the United States of America differ in terms of the pot allocation methodology, number of participants, periodic amount contributed, and non-monetary benefits as a result of legislation of each country, culture, tradition and needs.

According to Onda (2021) and Hutchison (2020), ROSCAs face numerous challenges. When one member of the group defaults, it may result in conflicts, in that the aggrieved group member may take revenge or confiscate the property of the defaulter (Hutchison, 2020). This implies that the whole cycle might be destroyed by the members who default, which might either affect the very existence of the ROSCA or lead to other members receiving a small amount of money. ROSCAs are rigid in that they set fixed contributions (Onda, 2021). This might be a disadvantage to the members who have inconsistent and irregular incomes.

ROSCAs might not be the candidates for linkage to formal banking. This is because ROSCAs give all the contributions in a period to one member. This results in the concentration of their lending to one member. The risk is that if the member defaults, the group may fail. This attribute might not be attractive to banks, in that they need the savings groups to be financially stable so that they are able to repay external debt. In ROSCAs, after one member has been given all the contributions, nothing is left in the cash box. ROSCAs do not charge interest; this implies that the members do not receive a return from their savings. Return on Savings is a very important performance metric for savings group, which trigger the incentive of group members to save or the formal banking institutions to provide financial services to the savings groups. When ROS is absent, ROSCAs might lose their attractiveness to formal banking institutions. When the funds are pooled together among members, they are given to one member

at a time. This implies that ROSCAs might not have an intention to deposit and save the contributions in formal banking institutions. The formal banking institutions are attracted to savings groups, which can deposit their funds in bank accounts so that the banks earn profit through the money creation process. ROSCAs are not candidates for savings groups – formal banking linkage because they do not keep savings, and by their very nature, might not need a bank account. A bank account and deposits made are the first steps that link any entity to formal banking.

3.2.1.2 Accumulating Savings and Credit Associations (ASCAs)

Accumulating Savings and Credit Associations (ASCAs) are savings groups where funds are not withdrawn immediately, like in ROSCAs, but the fund is left to accumulate for making loans (Africano, Eriah and Nuwagaba, 2024). Barnerjee et al. (2017) opine that ASCAs in Norway are independent from external financial sources. The implication is that they rely on internal funds which come from group members through savings. Thus, ASCAs are member-funded. Reliance on internal funds might present a problem in loanable funds if the savings are low. Barnerjee et al. (2017) argue that the ASCAs have low transaction costs and can exist in rural and remote areas. Loans and savings conditions are agreed upon by members to ensure that even the poorest participate in ASCAs (Africano et al., 2024). According to Pischke (2014), cited in Africano et al. (2024), just like other types of savings' groups, ASCAs are built on social ties because the group members know each other, and this helps in reducing moral hazard and adverse selection. The members trust each other and can monitor each other based on the knowledge of each other (Africano et al., 2024). Bouman (2019) report that in Bolivia and Brazil, group members are charged a 10% interest rate and non-group members are charged a 20% interest rate. The differentials in interest rates between members and non-members are because of the additional default risk that the non-members might bring into ASCAs. Using the Bolivian and Brazilian evidence from Bouman (2019), ASCAs are different from other savings groups, such as ROSCAs and Village Savings and Lending Associations (VSLAs), in that they also lend to non-members. Bouman (2019) notes that in ASCAs, there is a variation of interest rates from one member to another. This implies that the members are charged different interest rates. This might also fuel conflicts in the group as other members feel that some members are treated better than others. ASCAs have an insurance component known as the social fund (just like in VSLAs) to assist members

in coping with a crisis (Adams, 2021). ASCAs run a cycle which ranges between six and twelve months, and deposits are lent to members and non-members (Akhter, 2018). Loan conditions, frequency of meetings and savings are agreed upon by members (Allen, 2020). According to Collins (2019), cited in Africano (2024), when the cycle ends, savings and profits are shared out.

3.2.1.3 Village Savings and Lending Associations (VSLAs)

VSLAs are community-based self-funding, organised and managed savings groups where members pool funds for future lending (Cassidy and Fafcamp, 2020). Panman (2022) opines that VSLAs consist of between 10 and 30 members in the community and are driven by social ties. This implies that social relations are very important in the establishment of VSLAs. People select each other into the groups based on social ties. This may be very crucial in instilling cooperation to group activities among the group members. Frisncho and Valdivia (2020) opine that VSLAs are savings-led microfinance groups. VSLAs are formed by 6 to 15 individuals who are committed to regularly saving a certain amount. Karlan et al. (2017) argue that VSLAs have flexible rules. This is in agreement with Green et al. (2019), who contend that savings and sanctions are agreed by the group members. Frisncho and Valdivia (2020) opine that members take loans on demand, and they are not forced to use a predetermined order to take the loans. The authors also note that the members can save more than the minimum amount. Savings contributions are in such a way that they accommodate those with low income and are also capped to shun monopolies (Cassidy and Fafcamp, 2020). This means that VSLA members agree on minimum and maximum savings contributions that can be made by the members. This helps to accommodate all the members, given their varying income status, and at the same time helps to prevent a situation where the group is dominated by the highest savers to build group solidarity and cohesion.

Fisncho and Valdivia (2020) and Nakato (2021) highlight that at the end of the cycle, members share out the savings contributions and the profit generated from the interest proportionate to the amount that one has saved. The authors also opine that VSLAs have an insurance component known as the social fund or solidarity fund to help the members once they face crisis (idiosyncratic and covariate risks). This implies that VSLAs promote members' resilience to crisis through the social fund.

Gonzales et al (2021) and Nakato (2021) trace the birth of VSLAs to 1991 in Niger as a result of the efforts of Cooperatives Assistance and Relief Everywhere International (CARE). Various scholars, such as Burlando et al. (2020), Mersland et al. (2019), Nakato (2021) and Shaaban (2022) opine that VSLAs that are not linked to formal banking keep their accumulated funds in a cash box. This might be a risk as funds might be stolen or burnt by fire. VSLAs, there is peer monitoring and internal screening of the borrowers (Pamuk et al., 2021). This stems from the fact that during group formation, members join the group based on social ties, making it easier to screen the borrowers. The members know the social standing of each other in the group, making screening of borrowers easy. The shared knowledge of the borrowers assists in informing loan disbursement decisions (Pamuk et al., 2021). The most common loan term is three months (Cassidy and Fafcamp, 2020). Burlando et al. (2020) contend that towards the end of the cycle, VSLAs stop lending, because the thrust will be on loan repayment, before funds are shared out. This indicates that there is a variation of loanable funds along the VSLA cycle. This might inform the need to link the VSLAs to formal banking so as to manage liquidity surplus and deficit.

The three structures of savings groups, namely ROSCAs, ASCAs and VSLAs, are similar in that they involve savings contributions and credit to members. However, VSLAs and ASCAs differ from ROSCAs in that they charge members interest on the loans, and they allow the savings contributions to accumulate, and loans to members are created from the accumulated savings. Group members are not given access to the pot in VSLAs and ASCAs. The savings create loanable funds that are given to members at an interest. In VSLAs and ASCAs, members do not have access to the pot, or members do not take turns to access the pot, but the savings contributions create loanable funds that are given at interest to members. VSLAs and ASCAs have similarities in that they allow the savings contributions from members to accumulate and give loans to members at an interest. However, the differences between VSLAs and ASCAs are that in ASCAs non-members also access loans from the group and ASCAs charge variable interest rates to members (Bouman, 2019).

Based on the analysis of the three structures of savings groups, savings group–formal banking linkages best suit the VSLAs type of savings groups. This is because in VSLAs, savings contributions are allowed to accumulate, and this might ensure that if the group has a savings account, the group can deposit funds into the account and

assist the banks in the money creation process. VSLAs funds kept in the savings account also act as collateral for formal loans. Total accumulated group savings are a form of savings group performance measure which can act as a basis upon which formal banking institutions can provide credit to VSLAs. In VSLAs, lending is done to the members only. This is important in reducing default risk in that those who are provided with loans are those who participate in the group activities and who have a credit record with the group. Bouman (2019) opines that ASCAs also lend to non-members, which might create exposure to defaults and might not be suitable for formal banking linkage. VSLAs best suit linkages with formal banking because once the group accesses a loan from the bank, the loan is distributed to members only as loans. This is important in curbing default risk because those who have access to the group loan from the bank are the members of the group, and the group may have the power to enforce repayment of the group bank loans. According to CARE (2017), Burlando et al. (2020) and Nakato (2021), VSLAs are powered by NGOs and other organisations. The involvement of NGOs and other organisations makes VSLAs attractive to banks because NGOs ensure transparency in VSLAs operations.

3.3 WHAT ARE SAVINGS GROUPS-FORMAL BANKING LINKAGES?

According to Pagura and Kristen (2006), cited in Nakato (2021), linkages are mutually beneficial partnerships (collaboration) between less formal and formal institutions, which lead to the expansion of rural financial services. This implies that the formal and informal financial institutions' collaboration results in a symbiotic relationship between the two institutions, leading to access to formal banking products by the previously excluded (mainly rural people). This implies that the collaborations should be beneficial to both informal and formal financial organisations. The linkages should lead to the formal financial institutions tapping into the markets which were previously excluded from access to formal financial products. The linkages are divided into two types or classes, namely, direct linkage and facilitated linkage (Pagura and Kristen, 2006). The authors contend that in facilitated linkages, the less formal institutions facilitate the linkage of savings groups to formal banking, whilst in a direct linkage, the less formal institutions are helped to diversify their funding sources and expand their loanable funds so that they can balance liquidity shortages and excesses.

One example of the facilitated linkage is the Banking on Change Project (Mersland et al., 2019). The project had a goal of promoting access to formal banking by the poor and the youth (underserved population) through financial literacy programs, formation of savings groups and linking savings groups to formal banking in Africa (Tanzania, Zambia, Mozambique, Uganda, Kenya, Ghana and Egypt) and Asia (Indonesia and Vietnam). Barclays Bank, CARE and Plan collaborated between 2009 and 2015, intending to increase savings groups' access to formal financial services in Ghana, Egypt, Kenya, India, Uganda, Tanzania, and Zambia. According to Ripperly (2017) and Mersland et al. (2019), CARE in Rwanda facilitated savings groups' linkages with Umurenge Savings, Credit Cooperatives and Vision Finance Company. Maes (2007), cited in Nakato (2021), observes another example of facilitated linkage - a case study of CARE- Community Learning and Action for Savings Stimulation and Enhancement & Business (CARE CLASSE) model in Rwanda, where savings groups formed federations (*intergroupments*) to have access to external credit from credit unions (*Banques Populaires*).

In Ghana, savings groups are formed and nurtured by NGOs (World Bank, 2019). This implies that NGOs have an instrumental role in establishing savings groups, training members and ensuring that the savings groups are governed properly. NGOs thus set the stage for savings groups-formal banking linkages. According to SEEP Network (2016), in Kenya, Equity Bank has used its mobile money platform (Equitel) to reach out to the savings groups. Mobile money requires an individual to have a mobile phone. Using mobile money, an individual can access financial services without physically travelling to the branches of formal financial services. Equity Bank also partnered with NGOs such as CARE to reach out to the savings groups. NGOs know of grassroots organisations, they are responsibly informing and nurturing them, and hence partnership between NGOs and formal financial institutions brings savings groups closer to formal banking institutions.

In Uganda, UGAFODE use mobile banking and NGOs such as Catholic Relief Services (CRS) to connect to Self Help Groups (SHGs). Vipin Chandran and Sandhya (2012) observe that in India, NGOs obtain bulk loans and advance these funds as credit to savings groups. NGOs are responsible for taking SHGs from the formation stage to the stage where they access formal financial services. Vipin Chandran and Sandhya (2012) report that in India, banks form and nurture SHGs and then advance

credit to SHGs when they have graduated to the satisfaction stage. Rouse and Verhoef (2017) expressed the importance of NGOs in linking savings groups to formal banking. Kelly et al. (2017) highlight the role of Fintech and banks in giving access to financial services to the poor. Collaborations improve efficiencies, product offerings and low-cost financial services. Technology promotes financial inclusion through the provision of convenience of financial services, reduction in adoption cost and breaking barriers to access (Financial Stability Board, 2017).

3.4 WHY SAVINGS GROUPS- FORMAL BANKING LINKAGES?

CARE (2019), Dermiguc–Kunt (2006), Karlan and Morduch (2010) and Severson (2012) highlight that savings group-formal banking linkages aid asset development for savings groups. This implies that the savings groups might have access to various types of formal banking products and be able to invest and acquire household or business assets. According to CARE (2019), savings group-formal banking linkages are very important for savings groups because they assist the savings groups' members in managing risk and investing in business opportunities. The linkages enable the savings groups to manage liquidity and have access to adequate credit to expand the businesses of their members. Savings groups-formal banking linkages fill the void between safety net programs addressing the needs of the poor and social protection (CARE, 2019).

On the other hand, Roodman (2012) opines that the benefit that savings groups get from linkages to formal banking depends on the agency used for linkages. Savings and Lending Associations (SLAs) have been under the condition of desperation and indebtedness as a result of venture capital money. This implies that not all the savings groups-formal banking linkages work well for savings groups. Institutions which target savings groups (SLAs) target people for loans, insinuating that the financial services they provide to savings groups are not centred on the benefits of savings groups but rather for their self-interest. As a result of such linkages, the SLAs lose most of their entrepreneurs. Karlan (2011) concurs with Severson (2012) by stating that for proper linkages, organisations which are involved in linkages should take into consideration mechanisms in which their good intentions may result in unintended consequences.

According to Burlando, Canidio and Selby's (2018) study on savings groups in Uganda, savings groups fail to match the supply and demand of internal funds. Therefore, to meet the demand for loans from members' savings, groups should be linked to formal banking. Formal banking enables savings groups to strike a balance between excess cash and cash deficit. Nakato (2021) notes that savings groups-formal banking linkages are very important in enabling formal banking institutions to increase their loan portfolio. Seel (2018) and Burlando et al.(2020) among other researchers, opines that at the beginning of a savings group cycle, groups have little funds to draw out as loans (because they will be accumulating savings to create loanable funds), and towards the end of the cycle, groups focus on collection of repayments, with very little available for loans (lending might be reduced or suspended). This implies that the variations in the funds along the savings groups' cycle suffice to form savings groups-formal banking linkages. The savings groups have challenges in meeting loan requirements by their members in the beginning and towards the end of the cycle. Formal banking is required so that the group can get group loans for onward distribution to members. This will mean that at any given stage of the savings groups' cycle, there are loanable funds. Central Bank of Liberia (n.d.) opines that savings groups may need to link with formal banking because group members need loans and may want to reinvest their share in income-generating projects.

Even though the credit given to savings group members is small, the credit is given under flexible terms in that the savings groups give quicker loans as compared to the loans offered by formal financial institutions (Gillingham, 2015). This shows the importance of speed and flexibility in the provision of financial services. This implies that if formal financial institutions want to provide financial services to the savings groups, they should redesign the products that are tailored to meet the needs of savings groups, which ensure flexibility and speed in the provision of financial services.

Seel (2018), Ledgerwood et al. (2013), Smith, Scott and Sherperd (2015), Pagura and Kirsten (2006), Bouman (1977), Aliber (2002), and Dercon, De Weerd, Bold and Pankhurst (2019) highlight that savings groups should be linked to the formal banking system so that the banks tap into the poor and the poor have access to formal banking.

Severson (2012) and Pagura and Kirsten (2013) highlight those formal financial institutions such as banks with operations in developing countries have liquidity challenges, and they need to be linked to the savings group or provide financial services to the poor so that they tap large sums of money circulating in the informal sector of the economy. The researchers contend that savings groups-formal banking linkages provide avenues for the formal financial institutions to reach out to the poor. According to Smith, Scott and Shepherd (2015), informal financial system-formal financial system linkages strengthen the provision of informal savings and credit through collective action at the local level. The authors report that the linkages help the formal financial institutions to increase outreach as a result of widespread membership in the savings clubs. On the other hand, Han and Melecky (2013) observe that access to formal finance increases bank deposits. This implies that when savings groups have access to formal finance, the banks benefit from the increase in deposits.

Nakato (2021) and Zondi (2016) note that savings groups-formal banking linkages assist formal financial institutions in gathering information about the needs of the savings group and the poor. This implies that savings groups and formal banking institutions have a symbiotic relationship; the linkages are beneficial to both the savings groups and formal financial institutions. Zondi (2016) agreed with Nakato (2021) through his study on stokvels in South Africa by highlighting that the stokvels have their operations within the community, and they have access to more information about clients, which the formal financial institutions lack. Zondi (2016) opines that the linkages between the formal financial institutions and stokvels are important for formal financial institutions to obtain adequate information about clients. This is supported by Bouman (1977), Aliber (2002), Dercon, De Weerd, Bold and Both formal financial institutions and savings groups benefit from the linkages (Pankhurst, 2016). The author further observes that savings groups get access to a diverse and broad range of resources from the formal financial institutions. On the other hand, the formal financial institutions get crucial information from savings groups about rural markets and which helps them in coming up with tailor-made financial products for the rural markets.

Frolich and Nguyen (2020) and Financial Deepening in Uganda (2018), among other researchers, raise safety concerns about the funds kept by the savings groups. Frolich and Nguyen (2020) contend that towards the end of the cycle, savings groups will

have large sums of money, the money is prone to theft and fire. Thus, the scholars raised the security risk of the savings group funds, and this implies that the savings groups must be linked to formal banking. Frolich and Nguyen (2020) highlight that it is very important for the savings groups to be linked to formal banking for the security of funds and to avoid impulsive withdrawal of funds. The researchers note that withdrawals made through banks are processed through a series of procedures and, in turn, prevent impulse withdrawals from savings groups. Prevention of impulse withdrawal enables the savings group to withdraw and use money for the intended purposes, and hence prevents diversion and wastage of group funds. According to Financial Sector Deepening in Uganda (2018), informal organisations such as VSLAs use manual practices which are likely to be affected by fraud, inefficiency and human error. Informal groups use paper records to track transactions and to document accounts (FSD Uganda, 2018). The informal groups are cash-based, and this poses a security risk to the savings and failure of members to pay contributions, especially those who do not attend meetings (FSD Uganda, 2018). There is a need for savings groups to be linked to formal banking so that there is security for deposits, proper recording of transactions and easy collection of contributions, especially when group members make deposits.

It is important to integrate formal and informal financial markets to improve financial system efficiency and also to facilitate the flow of savings and credit within the financial system (Aryeetey, 2008). Floro and Ray (1997), cited in Aryeetey (2008), contend that the social structures cause the linkages between formal and informal finance to be impossible. Conning and Kevane (2002) highlight that there is a high potential for linkages between formal and informal institutions where both types of financial institutions are strong. Aryeetey (2008) observes that there was a need for the implementation of policies to effectively develop linkages between formal and informal financial institutions. There is a need to link the informal and formal financial institutions to overcome the gaps in the financial markets (Seibel, 2006). The author noted that formal financial institutions (banks) can have linkages with informal financial institutions so that the informal financial institutions help in funds distribution and collection. Informal financial institutions can help formal financial institutions with peer monitoring and guaranteeing the security of credit through collective responsibility.

Dupas and Robinson (2013) contend that savings groups must have formal bank accounts despite usage fees charged by banks, as having bank accounts enables the rural people to save more and embark on productive investments. This implies that ownership of bank accounts by savings groups cultivates a savings culture, which further enables the savings groups to venture into lucrative projects. Frolich and Nguyen (2020) note that through the linkages, savings groups are exposed to a variety of financial products, especially when building a financial history with banks. The authors highlight that savings groups may also earn interest rates on their savings, which may improve their returns on savings.

Shrestha and Nursamsu (2020) opine that informal financial institutions are risky, costly, and inadequately regulated, leading to the exploitation of the people. The researchers highlight that there is a need to connect formal and informal financial services. Tim Nasional Percepatan Penanggulangan Kemiskinan (2018) notes that in Nepal, access to formal finance is important because it addresses the problem of inequalities.

Seel (2018) purports that savings groups and their members have savings discipline, a degree of financial education and the ability to repay the loans, and they can be linked to formal banking. The researcher also opines that the involvement of NGOs in savings groups strengthens the linkages of savings groups with formal banking. The author stated that the training that is provided to savings groups by NGOs helps formal financial institutions in dealing with savings groups properly. However, Seel (2018) focused on savings groups which are sponsored and facilitated by NGOs and ignored those with no external assistance, hence, making the author's view subjective to some extent. CARE, Plan and Barclays (2016) opine that savings groups which are linked to formal banking enjoy capacity building or financial education. This implies that the financial literacy of the group members might improve as a result of the linkages of savings groups to formal banking. The researchers further contend that savings groups, which are linked to formal banking, enjoy financial services such as remittances and reduced transaction costs. The researchers further opine that savings groups-formal banking linkages overcome rigidities and challenges faced by savings groups, resulting in financial inclusion.

Seel (2018) further contends that savings groups-formal banking linkages provide the savings groups with opportunities to hedge inflation. The author stated that savings groups-formal banking linkages are desirable in countries such as Zimbabwe, which are prone to hyperinflation. Formal financial institutions could be safer by converting groups' savings into a stable currency. Seel (2018) observes that in cases where savings groups are not linked to formal banking, savings groups hedge their savings by converting them into material assets. Material assets are illiquid, and they might affect the group's liquidity and be undesirable in situations where there is a need to meet a huge loan request. Le Polain et al. (2018) contend that savings groups might charge members exorbitant interest rates and hence cause indebtedness among the members, and the cash stored in the cash box is at risk of theft. This raises the need for savings groups to be linked to formal banking.

According to SEEP Network (2016), members have long-term savings goals that cannot be satisfied by the savings groups, given that savings groups run on cycles (one-year cycle). Members have savings goals that run beyond the cycle and hence might need to be linked to formal banking to satisfy those long-term savings needs (SEEP Network, 2016). Some of the savings' needs might also run beyond the scope of the savings groups, leaving the members with unsatisfied needs and then arises the need to link the savings groups to formal banking (SEEP Network, 2016). Growth-oriented group members have a loan demand which exceeds what the group can provide. Bouman (1977), Aliber (2002), Dercon, De Weerd, Bold and Pankhurst (2006), all cited in Mersland et al. (2019), Nakato (2021), Candace and Gash (2016) also raise concerns about savings groups-formal banking linkages as they report that making savings group bank clients might result in various concerns on group dynamics, composition, profitability and sustainability. The researchers further contend that savings groups-formal banking linkages may raise operational issues (the best ways of coming up with relationships), financial concerns (the business justification for formal financial institutions in serving the low-income and risky clients), ethical issues (consumer protection for members, privacy, use of group data, autonomy in the group and democratic decision making).

Bouman (1977), Aliber (2002), Dercon, De Weerd, Bold and Pankhurst (2006) and De Weerd, Bold and Pankhurst (2006) all cited in Mersland et al. (2019) contend that savings groups-formal banking linkages destroy the social systems that bind and bring

together group dynamics, and also lead to a loss of adaptability and flexibility, which are the foundations of the savings groups. Nakato (2021) further highlights that social cohesion is lost when savings groups are connected to formal banking. This implies that when savings groups are connected to formal banking, the introduction of the third party (formal banking institutions), which brings rules and regulations which bind how the groups should operate, destroys the cohesion, flexibility and adaptability of the savings groups, which are the cornerstones of the savings groups. This highlights that it is better not to connect savings groups to formal banking because if the linkages are not done with care, savings groups may be destroyed. This might refute the purpose the savings groups are meant to achieve, for example, the provision of basic financial services to the core poor and marginalised members of the community.

Olivier (2017) argues that stokvels in South Africa provide social cohesion. The author further highlights that 'stokvels allow people to share information, ideas and learning from each other. Stokvels bring social capital, where people have a sense of solidarity in addition to the financial services that they obtain. Formal banking institutions have a weakness that they do not foster cohesion among clients, and that may be the reason why stokvels might not link to formal banking. According to Informal financial services provide services which are provided by formal financial institutions, but formal financial institutions provide more fulfilling services than informal financial institutions (Fafchamps, 2018). Besides financial services, informal financial institutions are home to social networks, care, sharing of knowledge and ideas, trust and solidarity, which cannot be found in the formal institutions.

Formal financial institutions are the means for the informal institutions to work better (Fafchamps, 2018). This implies that once savings groups – formal banking linkages take place, banking institutions enable the savings groups to work better. This may be through the provision of safety and security of funds, providing adequate loans so as to overcome the variations of loanable funds along the savings groups' cycle and the diversity of the financial products provided to the savings groups. However, value addition in terms of financial services provisions might also present social costs to the savings groups, such as loss of flexibility, bonds, cohesion and identity as highlighted by scholars such as Nakato (2021). Kartal (2019) opines that formalising stokvels may make them lose their purpose and foundational idea. Formal banking is not flexible and lacks a personal touch with stokvel members.

Despite the disincentives associated with savings groups-formal banking linkages, the advantages outweigh the disadvantages. Piprek (2007), Ghate and Pagura, and Kirsten (2006) observe that although savings groups-formal banking linkages promote the achievement of the United Nations' goal of financial inclusion, formal financial institutions should provide financial products that meet the needs of the saving group members. There should be a better understanding of how formal and informal financial services satisfy the needs of the people for financial inclusion to occur (Ledgerwood and Jethani, 2013). This implies that formal banking institutions should understand their savings group customers and how best they should be provided with formal financial products.

3.5 SAVINGS GROUPS' COMPOSITION, STATUS AND LINKAGES WITH FORMAL BANKING

Cassidy and Fafchamps (2020), cited in Nakato (2021), Allen et al. (2012) cited in Wale and Makina (2017), and Burlando and Canidio (2017) observe that the socio-economic status of savings group members determines their access to formal financial services. Burlando and Canidio (2017) posit that savings groups, which are made up of poorer members, take a longer period to accumulate funds and satisfy the demand for loans. The researchers contend that the groups with poorer members, due to their socio-economic attributes, experience low savings and borrowing levels. This implies that savings groups that are composed mainly of poorer members may lack financial stability, and this can serve as a barrier to their access to mainstream finance. Cassidy and Fafchamps (2020), cited in Nakato (2021), opine that in many instances, savings groups are made up of members conducting similar economic activities and vulnerable to a similar economic shock. The researcher further highlights that when the shock happens, the existence of the group is compromised because all members are under a financial strain. This implies that savings groups composed of members belonging to the same economic sector might not be stable in times of crisis, and this might compromise the linkages of such savings groups to formal banking. Allen et al. (2012), cited in Wale and Makina (2017), using the Global Findex data of the World Bank, contend that there is a positive relationship between account ownership and income and education of people. The researchers note that those who own and use accounts are educated and rich. The stokvels in South Africa are mainly composed of members

from the black communities who are poor, unemployed and fail to access formal banking (Ngcobo and Chisasa, 2018). This implies that savings group members' race, employment status and income status affect access to formal banking by the members of stokvels. The stokvels might have a problem in accumulating more savings and this may disadvantage them from accessing formal banking. Accumulated savings act as a collateral affect opening a bank account or accessing bank credit. Small savings may discourage banks from dealing with savings groups. This is because most banks, apply an institutionalist approach, where they have profitability objectives. Stokvels composed of poor and unemployed group members may not be attractive to profit oriented banks (who seek to serve entrepreneurial poor instead of the core poor).

O' Donnel (1999), Alessie, Lusardi and Van (2007), Cole, Sampson and Zia (2011), all cited in Pande et al. (2011), and Allen, Dermiguc-Kunt, Klapper and Peria (2016) highlight that education and financial literacy influence the uptake of formal financial services. This is supported by Lusardi and Mitchell (2007) and Calvet et al. (2007), both cited in Karlan et al. (2014), who highlight that a lack of financial knowledge results in a failure and unwillingness to use formal financial services. Allen, Dermiguc-Kunt, Klapper and Peria (2016) investigated the factors which affect the choice to own a bank account and savings accounts concerning individual and country characteristics across 123 countries and revealed that higher education and income levels affected financial inclusion positively. Ngcobo (2024) opines that the lack of education forces stokvel members in South Africa to use their mother language when dealing with formal banking institutions, which is one of the reasons why members avoid formal banking institutions. This is in line with Chude and Chude (2016), who investigated the survival of informal financial institutions in Nigeria and revealed that the members of informal financial institutions are mainly women, lacking education and adequate loanable funds. This barrier may prevent such informal financial organisations from accessing formal banking. Tengeh and Nkem (2017), cited in Ngcobo and Chisasa (2018), report that immigrants from Cameroon established stokvels in South Africa so as to access capital for their businesses. The implication is that stokvels that consist mainly of immigrant members, may fail to link to formal banking because of a lack of documentation, low levels of trust from formal banking institutions, perceived high risk in dealing with them and lack of adequate creditworthiness information.

Evidence from Hogarth and O' Donnel (1999), Alessie, Lusardi and Van (2007), all cited in Pande et al. (2012), indicates that there is an association between participation in the formal financial system and financial literacy. Cole, Sampson and Zia (2011), cited in Pande et al. (2012), conducted a survey in India and Indonesia and revealed that financial literacy determines the uptake of financial services. This implies that if a savings group is made of many financially literate members, they might have a high chance of linking up with formal banks. This is because financial literacy creates awareness of the formal financial products. Economic Policy and Research Centre in Uganda (2013) reports that about five (5) million people in Uganda are not saving. They stated that Ugandans have low levels of financial literacy, thus diminishing the willingness to use formal financial products. This implies that savings groups must be composed of financially literate members to promote their access to formal financial services.

According to Dermirguc-Kunt et al. (2017), 67% of people around the world, of which 56% are women, have a primary school education or less. Low levels of education reduce the ability to use formal financial services. This implies that in savings groups dominated by members with low levels of education, linkages with formal banking are challenging because the members may lack awareness of the formal banking products. Dermirguc-Kunt et al. (2017) further observe that most of the individuals live near or on the poverty line, and hence they have limited discretionary income to save and pay bank fees, which hinders them from using formal financial services. According to Richardson and Thai (2012), most of the savings' groups are composed of members who are less educated and have numeracy challenges. According to the researchers, in Vietnam, low literacy levels and numeracy challenges have resulted in NGOs coming up with training programs.

Seshan and Yang (2013) conducted a study to measure how savings-focused financial literacy training affected the financial decisions of migrant workers from India who were based in Qatar. The study used a sample of 232 male Indian migrant workers from Doha in Qatar who were married. 157 Indian migrant workers were provided with a short financial literacy program, and 75 Indian immigrant workers were not provided with financial literacy training. The study reveals that there was a behavioural change among the Indian immigrant workers, with 48.4% of those who were trained more likely to make financial decisions with their spouses. This shows the importance of financial

education in financial decision-making, and this might mean that when savings groups are provided with financial education, they become aware of the formal financial products, increasing the chances of adopting formal financial products

Lusardi and Mitchell (2007), cited in Karlan et al. (2014), opine that many people in both developed and developing countries lack knowledge of financial services. Cole et al. (2011), cited in Karlan et al. (2014), stated that in India, the poor lack financial knowledge. Xu and Zia (2012) supported Cole et al. (2011) that many people in India lack financial knowledge. Calvet et al. (2007), cited in Karlan et al. (2014), highlight that people who lack financial knowledge choose to move out of financial markets when the returns from their savings are low. According to Hastings et al. (2012), there is a weak causal relationship between lack of knowledge and under-saving in developing countries.

Hasting et al. (2012) and Fernandes et al. (2013) dispute the fact that financial education can encourage people to use formal financial services. Fernandes et al. (2013) contend that financial education does not lead to a change in behaviour. This implies that even if the poor are taught financial literacy, this does not change their decision whether to adopt or not adopt the formal financial services. Karlan et al. (2014) contend that there is a possibility of reverse causality where knowledge can increase as a result of savings. Cole et al. (2011) provided a 2-hour program on financial education based on the benefits and workings of bank accounts and found that the financial education program had no effect on opening of savings accounts for the members of the general population, even though there was a slight increase in the uptake of formal financial services among those with low levels of financial literacy. The study which was conducted by Carpena et al. (2011) in Western India which sought to measure the effects of financial training in three aspects of financial knowledge namely financial awareness, numeracy skills and attitudes towards financial decision using a sample of 1200 urban household drawn from Ahmedabad found that financial education had an influence on the attitudes and awareness of the participants on the financial products but had a limited impact on increasing numeracy even in situations where there were monetary incentives provided to the individuals.

Amin and Mushred (2022), Churchill and Appau (2020), Kim et al. (2020) and Nayarang and Shagishan (2021) and Ozili (2018) argue that religion, cultural beliefs

and ethnicity affect financial inclusion. Nayarang and Shagishna (2021) contend that formal financial institutions shun communities which subscribe to certain religious beliefs which do not accept receiving or paying interest. The linkage of any informal financial institution to formal banking is based on both savings and credit linkage, where there is receipt and payment of interest. The informal–formal banking connections may not be beneficial when the interest component on both credit and savings is ignored. Kim et al. (2020) conducted a study to examine the influence of religious and social inequality metrics on financial inclusion in one hundred and fifty-two (152) countries, including forty-eight (48) Organisation of Islamic Cooperation (OIC) countries. The study used an Ordinary Least Squares regression analysis and found that regardless of whether the country is Muslim and OIC or non-OIC, religion and social inequality have an impact on financial inclusion. However, the study did not take into consideration the role of ethnic grouping in financial inclusion.

Churchill and Appau (2020) note that ethnic and linguistic fractionalization affects the success of microfinance institutions. The authors argue that although linguistic and ethnic fractionalization affect the success of MFIs, they have a detrimental impact on the outreach depth. Churchill and Mishra (2018) evaluated the role of ethnic diversity in Microfinance Institutions and found that the implications of ethnic diversity should inform the major focus of MFIs. Ethnic diversity may result in the mission drift of MFIs. Amin and Murshed (2022) conducted a study on one hundred and two (102) developing countries on the relationship between ethnic and religious diversity and financial development. The study found that religious and ethnic diversity retard financial development.

Furthermore, another study was conducted by Amin et al. (2022) on the relationship between ethnic and religious diversity and financial inclusion. The study used both cross-sectional and panel data for 187 countries across the world and reports that there is a positive relationship between ethnic and religious diversity and financial inclusion. The authors note that the results are consistent with low-, middle- and high-income countries. Madni (2019) conducted a study on how ethnic diversity, government expenditure and wealth inequality impact financial inclusion in Pakistan. The study reveals that wealth disparity and ethnic diversity contribute to the decline of institutions and impede financial inclusion. A study conducted by Brekke (2018) on how Islamic traditions contribute to the financial marginalisation of Muslims in the

West, using data from Norway between 2015 and 2016, found that the traditions of Muslim result in financial exclusion of Muslims and hinder their integration into the formal banking system. This indicates how traditions may be a barrier to access to formal financial services.

Savings groups are composed of people from ethnic and religious backgrounds. This indicates that formal financial institutions might consider the religious and ethnic composition of savings groups. This might affect the extent to which savings groups access formal banking. Nayarang and Shagisha (2021) argue that some religions do not accept formal banking products where interest is charged; this might jeopardise the required savings group–formal banking linkages, as both savings groups and formal banking deal with engagement where interest is charged and become the basis for the profitability of the institutions.

Factors such as lifestyle, religion and culture may contribute to the lack of uptake of formal banking products (Ozili, 2018). The researcher opines that religious teachings and some cultural beliefs discourage followers from adopting technology to access formal banking products. The researcher further contends that cultural beliefs may result in involuntary financial exclusion, where heavy punishments are imposed on people who send money outside the community through formal financial services such as banks. Religious teachings and cultural beliefs might influence the extent to which savings group members are willing to use formal banking products. Ozili (2018) further highlights that individuals from communities that are affected by religious teachings and cultural beliefs have no incentive or are reluctant to participate in formal banking. This shows that religious teaching and cultural beliefs might also hinder financial inclusion or savings groups-formal banking linkages, especially if such practices are inherent among the members. A study conducted by Beck and Brown (2011) using household survey data reveals that households in urban areas are more likely to use digital platforms and banking services compared to their rural counterparts. This might affect the extent to which savings groups located in rural areas access formal banking. The author contended that people in urban areas have more income compared to people in rural areas, and they might have an incentive to use formal financial services.

Chen and Stratheam (2020) and Qi et al. (2019) report that the socio-economic conditions affect bank branch decisions. Frolich and Nguyen (2020) argue that cultural

and economic factors in savings groups in Zambia affect the linkages of savings groups to formal banking. People of certain provinces (savings groups in certain provinces in Zambia) were not willing to entrust their funds to the organisations that came from outside their provinces (Frolich and Nguyen, 2020). Frolich and Nguyen (2020) observe that banks faced challenges in penetrating the savings groups in certain provinces of Zambia due to a language barrier. The officials from the banks did not communicate in the local language (Lozi language), and this escalated the disagreements between the bank officials and savings group members, leading to the failure to link and expand formal banking in certain provinces of Zambia. The indication is that considerations of socio-cultural circumstances of informal financial institutions are very important. The failure to comply with the socio-cultural factors leads to a negative attitude towards formal banking institutions, loss trust and confidence in formal banking institutions. The consequence is that savings groups – formal banking linkages will be compromised.

Nonetheless, Fungacova and Weil (2015) used Global Findex data to assess the determinants of financial inclusion in China and other BRICS countries, namely: Brazil, Russia, India and South Africa. The study revealed that age, gender, high level of education and belonging to an affluent social class result in financial inclusion. This concurs with the study by Ghosh and Vinod (2017), which analysed the factors hindering women's financial inclusion in India and found that female-headed households are 6% likely to use informal finance compared to male-headed households. The authors further argue that female-headed families are 8% less likely to access formal finance compared to male-headed households. This implies that women are more likely to use informal financial services than men. Gender determines the extent to which a person uses formal financial services, implying that factors such as gender, age, income levels and education level affect the access and usage of formal financial services in BRICS countries. This is consistent with Tuesta et al.'s (2015) study in Argentina. The authors used Global data of 1000 adults and adopted a probit estimation model. They reported that income, education and age determine access to credits, bank accounts and debit cards. Pomeroy et al. (2020) opine that collateral issues, financial incapacity, lack of official identification and literacy are factors which hinder financial inclusion.

Allen and Staehle (2015) and Ibrahim and Kuru-Utumpala (2020) report the influence of the family in the savings groups. The researchers recommended that the savings group should not be composed of many members of the same family, for example, husband and wife or mother and sons, to avoid reinforcement of power inequalities, which might harm the savings groups. The power inequalities in savings groups have implications for the stability of the savings groups and decisions to link the savings groups to formal banking. Savings groups should be composed of members with similar economic backgrounds, proximity of group members, reliability and honesty, ability to regularly attend meetings, cooperation and adherence to group rules (Allen and Staehle, 2015). Ibrahim and Kuru-Utumpala (2020) contend that leadership exhibited by savings group members may influence the stability of the savings groups. The researchers note that in some situations, a member of a savings group may exhibit leadership which inhibits the empowerment of other group members, especially when the majority of the savings group members follow the leader. This implies that the savings group members in leadership positions may exhibit influence, which may hinder the empowerment of other members, such as linking savings groups to formal banking.

Dermiguc–Kunt et al (2018) and Zondi (2016) opine that women have more challenges in accessing formal financial services compared to men. This is supported by Makina (2019). Using 2017 Global Findex Data, the author observes that 80% of the financially excluded people around the world are from Africa, and the majority of them are women. Dermiguc–Kunt (2018), using Global Findex data for 2017, reports that men have more access to bank accounts than women. They argue that bank account ownership for men is 72% and for women is 65%. Allen et al. (2016) support this view by highlighting that financial inclusion enables people to save. This implies that women are less likely to save in formal financial institutions as a result of limited access to formal banking. This negatively affects savings groups – formal banking linkages for savings groups dominated by female members.

Women's World Banking (2015) and Nyataya (2018) highlight the influence of culture, tradition and gender norms on the participation and decision-making of women in savings groups. A study conducted by the Women's World Banking (2015) on financial inclusion of women in Papua New Guinea and Samoa found that gender-based violence, adverse cultural, traditional, socio-economic and personal characteristics

hinder women from accessing financial services, financial resources and business opportunities. This implies that savings groups that have the majority of members being females might have difficulties in accessing formal financial services. This is because the cultural and traditional systems in Papua New Guinea and Samoa discourage women from participating in economic activities. Women's World Banking (2015) argues that in Papua New Guinea, there is weak law and order, which allows men to have entitlement, making men feel a sense of ownership. Women lack access to networks as a result of restrictions due to cultural norms, and hence they are deprived of information about formal banking services (OECD / INFE, 2015).

It is not enough to provide financial services for women deprived of formal financial services when the society has norms which allow patriarchy (Nataya, 2018). Married women suffer from the influence of their husbands on savings and decisions to use loans. Women allow their husbands to have a say in the use of the loans to shun domestic violence (Nyataya, 2018). This implies that a savings group dominated by female members may be affected by the decisions which are made by the husbands of the other members, and this affects savings group-formal banking linkages. Such decisions might affect the savings contribution of female members and also their ability to repay loans. This affects group stability, dynamics and performance, which can jeopardise the linkage of savings groups to formal banking.

Making Finance Work for Africa (2012) opines that in Nigeria, Rwanda and Sri Lanka, attempts have been made to improve access to formal credit by women. The researcher argues that in Rwanda, women were granted property rights and the right to inherit land and hence increased the possibility of women owning land and using it as collateral for loans. Making Finance Work for Africa (2012) and IFC (2011) further opine that in Nigeria and Sri Lanka, banks accepted household equipment and jewellery from women as collateral. This implies that women were empowered by the banks to have collateral, promoting access to formal banking. This indicates that female savings group members could access formal credit using jewellery and household assets as collateral. Women's World Banking (2015) argue that in Malawi, formal financial institutions (such as NBS Bank) used local languages (Chichewa) to reach out to women, in their workplaces and areas of residence, to campaign for savings accounts known as Pafupi agency savings accounts. This implies that the formal banking institutions increased their outreach to women and made it possible to

locate women. Global Alliance for Women (2014) investigated how banks can profit from a multi-trillion-dollar female economy in Papua New Guinea and Samoa. The study reports the perspectives of financial services rendered to women as women being risk averse (cautious), taking longer to make decisions, building longer relationships, prioritising services linked to financial products (such as education and networking) and having lower chances of defaulting. Sharma and Zeller (1997), World Bank (2007) and D'Espallier (2011), Agier and Szafarz (2013) contend that women are better at loan repayment than men.

Women make investments which have lower credit default than men (Agier and Szafars, 2013). Owing to their low risk-taking behaviour, women can repay loans. Formal financial institutions prefer lending to women because they are affected by peer pressure in credit groups. Women are not willing to assume the pressure associated with failure to repay loans. Savings groups with a majority of female members have a high likelihood of keeping their formal bank accounts active (CARE, 2017). SEEP (2019) argues that male members are less likely to repay loans, and they are not concerned about the consequences of not repaying loans. This implies that men have no caring attitude in terms of their loan defaults. This might also imply that some loan defaults might be made intentionally. Waller (2014) supports SEEP (2019) by arguing that men are not trusted by their female counterparts in savings groups, since they are seen as a face of default. Gender dynamics in savings groups have implications for the linkages of savings groups to formal banking. First, the effect of gender on savings and loan repayment affects group stability and performance. Second, formal financial institutions are concerned about viability (they mean business); they come up with different ways of serving profitable clients and reducing credit risk. Last, the composition of members who are not creditworthy might jeopardise the linkage of savings groups to formal banking. Since various authors opine the fact that women are known for good loan repayment records and savings, savings groups composed mainly of women can attract the attention of formal banking institutions as a result of their creditworthiness. Central Bank of Liberia (n.d.) opines that women are intimidated by the threat posed by debt collections, in the case they fail to repay the loans.

According to Albert Bandura, in his Social Learning Theory, certain behaviours are learnt from the social environment (as people associate with each other). Women also

do not like to be labelled as loan defaulters, and this helps in moulding their financial behaviours. In order to avoid being labelled as loan defaulters, women might avoid large sums of money as loans and avoid missing loan repayments. Women are more responsible for family financial matters and hence they make disciplined financial decisions on spending and savings, and they prefer long-term financial stability for the family despite their low financial literacy. Financial literacy might be a common factor in explaining financial behaviour; however, some factors can mould one's financial behaviour despite lower levels of literacy, such as social and cultural factors and risk aversion of an individual. Therefore, women might have lower levels of financial literacy as compared to men, but certain factors other than financial literacy may make them have better financial behaviours as compared to men.

AFI (2020), Knowles (2018) and Waller (2014) report gender disparities in savings and loan amounts accessed by male and female group members. AFI (2020), using the evidence from Ecuador, highlights that the culture, which is dominated by men, spills over to the savings groups where women contribute more in terms of savings, yet they get lower loan amounts than men. Waller (2014), using the evidence of a study which was conducted in Malawi by Catholic Relief Services (CRS), argues that men prefer larger loan sizes compared to women. CARE (2018) and Mersland et al. (2018) opine that, owing to limited access to formal banking by women, savings groups are being created by facilitating agencies, mainly targeting women. Mersland et al. (2019) contend that many savings groups are targeting women. The researchers note that even the composition matrix of savings groups on the SAVIX data shows the dominance of female members in the groups. However, Mersland et al. (2019) did not indicate how the gender of savings group members affects the linkages between savings groups and formal banking. Mersland et al. (2019) opine that many facilitating agencies mainly focus on women. The focus of the facilitating agencies on women implies the composition of the savings groups, which might affect the extent to which savings groups access formal financial services. Mersland et al. (2019) highlight the examples of Savings for Change, Stromme Foundation, Freedom from Hunger and Oxfam, where savings groups are formed mainly targeting female members. According to CARE (2018), the VSLA model continues to gain strength from the connectivity within the VSLA. In Mali and Niger, about 500 000 women are linked through federation-style representatives (CARE, 2018). This implies that the group

members can influence the financial institutions and governments to provide access to financial services which meet their needs. SEEP (2020) highlights that one group in the poorest area of Busia in Uganda opened a Barclays bank account under the Banking on the Change project. The author opines that the group was able to deposit about US\$216 and accessed a group loan of US\$800 from Barclays Bank. The author further highlights that the loan accessed from the bank was distributed to members as small loans (SEEP, 2020). SEEP (2020) report that the group managed to repay the loan to the Barclays bank, and the group made a profit as they charged the members a higher interest than the bank. The group members mainly used the loans to purchase agricultural inputs and which increased production. However, SEEP (2020) reveal that the group refused to get another loan from Barclays Bank, raising concerns about what will happen to them should they have a poor agricultural season. This implies that savings groups also check their attributes and status, and this affects their decision to link with formal banking. The group was mainly composed of farmers and their decision to take a loan from the bank was affected by the concern of a poor farming season, which might present problems in their loan repayment capacity. The implication for a savings group with group members from similar economic activities is that when there is a shock that negatively affect the economic activities, the very existence of the group can be compromised. This is because there is lack of diversification of sources of income, which might compromise the group existence during a shock.

According to Malkamaki (2015), kinship, internal power dynamics, and the savings group leader's role in the community can perpetuate fund mismanagement, which fails the savings groups. This implies that savings groups which are built upon the foundation of leaders with community roles, kinships and internal power dynamics are likely to perform poorly and fail. This also indicates that these types of savings groups, even if they are linked to formal banking, can fail as a result of the conditions which are fertile for financial mismanagement. According to Brewer and Gardner (2020) and Karlan, Ratan and Zinman (2014), participation in savings groups results in wealth creation and accumulation of assets by members. This might make it possible for savings groups to connect to formal banking. Steinert et al. (2018) observe that participation in savings groups reduces the resistance to savings group –formal banking linkages by the savings group members.

Bisrat, Kostas and Feng (2012), cited in Martinez, D'Espallier and Mersland (2021), highlight that the size of the group has an impact on the focus of the group. Bisrat et al. (2012) opine that large groups, where members have no close relationships, change the focus of the group to a profit-oriented role. The authors further note that small savings groups are built on close ties among members, where the ties stem from business associates, friends, neighbours and schoolmates. This implies that in small groups, there is a high sense of solidarity and cohesion, and such groups mainly tend to pursue a more social goal than a profit-oriented goal. On the other hand, Nakato (2021) highlight that older groups have experience in resolving members' disputes, have experience in successive cycles, can manage operations and perform better than new savings groups. The researcher revealed that older savings groups are more likely to be linked to formal financial institutions than new savings groups. Mersland, Nyarko, and Szafarz (2019), D'Espallier, Guerin, and Mersland (2013) and Nakato (2021) highlight that larger savings groups own more assets as compared to small savings groups, and hence they are likely to benefit from the financial linkages as compared to the small groups.

Matuku and Kaseke (2014) opine that South Africa is characterised by high levels of unemployment, poverty and inequalities and people are forced to rely on stokvel and cannot afford formal banking services. Formal banking institutions lack portfolios that serve the poor (Matuku and Kaseke, 2014). Unemployment contributes to low-income levels of individuals. Stokvels composed of mainly unemployed and poor members may not be willing to link with formal banking as they may fail to afford the costs related to accessing and using formal financial services. This highlights the need for the banks to understand some of the composition and status characteristics of stokvel members, such as unemployment and poverty, to come up with products that serve stokvel members best. The capability theory opines that a person should be understood based on his or her capabilities to achieve well-being. FSP should understand savings groups such as stokvels based on attributes such as employment status and poverty status of the members, so as not to deny them access to formal services, but to come up with innovative formal products that are tailor-made to meet their needs. This might help tap the financial resources which are circulating in the informal economy into the mainstream economy.

Radebe (2013), cited in Ngcobo and Chisasa (2018) reports that there is a skewed relationship between stokvels, banks and insurance companies in South Africa, and this relationship favours the dominant player. The author opines that stokvels fail to benefit from the relationships with banks and insurance companies because of the informal nature of stokvels, which compromise governance, limited financial asset base and cash reserves (due to irregular premiums). The authors further opine that poor appetite by members to use banking activities or to formalise their business compromises the linkages with formal banking.

3.6 SAVINGS GROUPS PERFORMANCE AND SAVINGS GROUPS – FORMAL BANKING LINKAGES

Studies on the impact of savings group performance on access to formal banking by savings groups have contradictory and inclusive evidence. Some studies, such as CARE (2017), Nakato (2021), Ndiege et al. (2014), SEEP Network (2017) and Vision Fund (2019), arrived at inconclusive and contradictory evidence. Contrary to the view that savings group performance affects access to formal banking by savings groups, Nakato (2021) and Ndiege et al. (2014) among other researchers, report that linkages may influence the performance of the group. This indicates that the savings group-formal banking linkage brings a bi-directional relationship whereby linkage can be a result of group performance or group performance may be influenced by the linkage. However, studies conducted on the impact of savings groups-formal banking linkages on the performance of the savings groups, such as CARE (2017), Nakato (2021), Ndiege et al. (2014), SEEP Network (2017) and Vision Fund (2019), arrived at inconclusive and contradictory evidence. Nakato (2021) and Ndiege et al. (2014) agree that credit linkage results in low savings as a result of dependence syndrome and a group losing a sense of ownership, which reduces the motive to save. However, this is in disagreement with CARE (2017), which reveals that credit linkages increase group savings. Vision Fund (2019) also reports that in Tanzania, savings groups' formal banking linkages increased savings and average loan size per member. SEEP (2017) reveals that in Niger, the linkage improved group performance in terms of savings for the first two years and thereafter the group experienced difficulties in loan repayments.

Frolich and Nguyen (2020), in their study on savings groups in Zambia, reveal that growing trust in savings groups' financial sustainability by formal banking institutions might encourage banks to provide loans to the savings groups at affordable interest rates. Wenner (1995) stated that savings groups form joint liability because the group members know other members' assets and their creditworthiness, and hence such groups can access formal financial services. This is because the group members are able to predict the probability of repayment by their group members based on their knowledge of the group members' assets. Arora and Singh (2017) contend that SHG members in Himachal Pradesh in India were connected with cooperative, regional, rural and commercial banks between 2008 and 2011 as a result of the improvement in revenue generation of the SHGs. The researchers contend that the improvement of the revenue of SHG enables them to maintain regular savings in the bank accounts.

Steinert et al. (2017) stated that the cumulative savings made by the savings group members can lead to opportunity investments, which might result in investing in income-generating activities and hence improving the micro and small enterprises of the savings group members. This implies that the cumulative savings groups might enable the savings group members to have the capacity to generate income, to ensure the group's financial stability. This might enable savings groups to become attractive to formal banking institutions. Anyango et al. (2007) and Parida and Sinha (2010) contend that savings groups which are highly performing with regard to agriculture and MSEs returns can cause macro-economic impacts. This implies that savings groups which have high returns from the activities of members in MSEs and agriculture can improve the economy; such savings groups may be targeted by banks as they may view them as sources of deposits.

Anyango et al. (2007) and Parida and Sinha (2010) highlight that savings groups' performance has been assessed using measurements such as financial management practices, loan portfolio, ability to withstand shocks, per capita savings, total group savings, asset accumulation, improvement in technical skills among members, loan repayment rates and profits from productive investment. The researchers argue that in high-performing savings groups, there is good governance, which leads to good group discipline and improvement in repayment rates. The high performance of the savings groups improves the reputation of the savings groups and may promote linkages of savings groups to formal banking.

Anyango et al. (2007), cited in Silisyene et al. (2018), argue that savings groups composed of wealthier members exhibit larger savings, and this gives them access to larger loans, compared to those with poorer members. This implies that savings groups composed mainly of wealthier members are likely to perform better than those with poorer members in terms of access to loans and total savings. The researchers note that savings per capita, which is determined by the level of income of savings group members, can determine the economic and financial strength of savings groups. Thus, savings per capita can be a metric which can be used by formal financial institutions to judge the performance of savings groups and may affect the extent of linkages between savings groups and formal banking.

Burlando and Canidio (2015) highlight that poor group members have limited access to loans due to low levels of savings, and this hurts the performance of the group. More so, the authors conducted a test to reveal the effect of externality on other group members, which is imposed by the savings and borrowing decisions of other group members. The researchers put highly vulnerable participants into two groups, which were made up of self-selected members with either minority-vulnerable households or majority-vulnerable households. At the end of one cycle, the researchers revealed that savings groups with minority of vulnerable members saved and borrowed 30% more than the savings groups with a majority of vulnerable members. They argue that in situations where funds are not rationed, the demand for funds is less than the supply of funds, hence has a negative implication on the return on savings for every group member. The researchers argue that a reduction in savings by other members leads to a reduction in the return on savings. This has a negative impact on savings groups' performance, which has an implication on the extent to which the savings groups can be linked to formal banking.

Silisyene et al. (2018) highlight that an increase in borrowing by members results in an increase in the equilibrium return on savings and encourages other members to increase savings. The researchers contend that the additional contribution made by the members reduces the rationing of funds, enabling more loans to be given and hence increasing the return on savings. Burlando and Canidio (2017) and Beaman et al. (2014) are in agreement that savings groups formed in vulnerable societies are not able to meet the demand for loans. This implies that such savings groups are less likely to perform well, given reductions in return on savings.

Parida and Sinha (2010), highlight that a lower performance of savings groups is a result of a lack of accountability and poor management of borrowed funds. Thus, in situations where there is failure to manage borrowed funds and a lack of accountability, formal banking institutions are repelled, hence jeopardising the savings groups-formal banking linkages. Silisyene et al. (2018) contend that the level of education of people does not restrict their participation in savings groups but has an impact on the performance of the groups.

According to Kast et al.'s (2012) study on savings groups, where savings group members share the same savings goals, the savings increase by more than 3.5 times. Consistently, Silas (2014), using the evidence from Colombia, observes that savings group members with shared savings goals had higher savings rates than savings groups whose members had personal savings goals. This implies that shared savings goals among savings group members are very important for savings and performance of the groups and can promote savings groups- formal banking linkages. Silisyene et al. (2018) highlight that a high loan utilisation rate increases individual and group savings. The researchers note that high loan utilisation leads to an increase in return on savings as borrowers would pay interest. High utilisation of loans and repayment of loans by the borrowers increase group savings and per capita savings (Silisyene, 2018).

Empirical studies have shown that savings groups-formal banking linkages also affect group performance (CARE, 2017; Baker, 2000; Beaman et al., 2014; Bennet, Goldberg and Hunte, 1996; Ndiege et al., 2014; SEEP, 2017 and Vision Fund, 2019). This implies that there is a bi-directional relationship between savings group performance and savings group-formal banking linkages. CARE (2017) observes that in Tanzania, East Kilimanjaro, savings groups are linked to Mwanga Community Banks. CARE (2017) reports higher Return on Assets (ROA) for savings groups which are linked to formal banking through a group savings account. The author opines that when a group has a savings account, the group feels a sense of security and hence members invest more money in their group. CARE (2017) also argues that credit linkages increase group savings. The author notes that savings groups that have access to formal credit encourage members to save more, leading to higher savings and an opportunity for both the group and the bank.

The impact of credit linkage on savings group members in Uganda has been observed in Uganda by Burlando et al. (2020). The linkages in the study were in the form of a formal banking savings account and a loan account to existing savings groups in six districts of Uganda. The study found that the linkage resulted in a 17% increase in the groups' savings, a 13% increase in self-reported income, an increase in the share-out and an increase in the loan size per member. This implies that formal banking linkages increased the group's performance in terms of savings and loan size per member. This is in agreement with Beaman et al. (2014), who report an increase in investment among the credit borrowers in Mali. An increase in loan size per member implies that the savings are quickly turned into loans, thus increasing the return on savings. However, the authors report that formal banking linkages in Uganda negatively affected group dynamics as the examined groups experienced an increase in the dropout rate. This is because linkages are an inclusion of a third party (bank) in the affairs of the group, which results in the group losing social capital (cohesion), flexibility and solidarity. Also, Maitra et al. (2017) study on financing smallholder farmers using agent-intermediated microcredit in India found that external credit causes changes in the membership of savings groups.

According to Vision Fund (2019), World Vision, through its microfinance unit, Vision Fund, partnered with Triple Jump to facilitate savings groups- formal banking linkages in Zambia in 2017. The author opines that intervention was a new approach to savings groups – formal banking linkages. According to Vision Funds (2019), linkages resulted in a positive impact on group performance. The author opines that the interviews with savings group members revealed a 71% increase in average savings per member (that is, from an average of \$145 in 2017 to \$251 in 2019). The average loan size per member increased by 50% from \$40 in 2017 to \$60 in 2019 (Vision Fund, 2019). There was a 100% increase in Return on Savings from 7% in 2017 to 14% in 2019. There was an increase in the percentage of members with outstanding loans from 74% in 2017 to 77% in 2019 (Vision Fund, 2019). The savings groups were able to manage debt as there were 0% write-offs and portfolio at risk. This implies that the linkages improved the performance of the group (Vision Fund, 2019). The group members were also able to manage the group's external debt as indicated by 0% write off and portfolio at risk (Vision Fund, 2019). This implies that the group could repay loans, increase savings, improve loan amount and improve group profitability, leading

to an increase in Return on Savings. Thus, linkages may promote group experience, which may result in members earning good returns from their savings.

SEEP (2017) reports on the evaluation of savings groups-financial service provider linkage in Niger by Hugh Allen and Paul Rippery. It is highlighted that for the first two years, the linkage performed very well. Thereafter, between 25% to 40% of savings groups experienced difficulties in repaying loans. The author reveals that the challenge in loan repayment arose because savings groups were receiving multiple loans, and lenders failed to coordinate the groups. Burlando et al. (2020) and Isoke, McVay and Arias-Kahoun (n.d) report that in 2015, Opportunity Bank Uganda LTD (OBUL) provided a linkage product to savings groups throughout Uganda. The authors report that bank loans with interest rates of 2.75% per month and varying repayment periods of between three and nine months were given to savings groups. Isoke (n.d) opines that CARE International in Uganda was an important partner in the project.

Isoke et al. (n.d.) highlight that the tenets of the group methodology were maintained and upheld, and groups were prepared through training before the linkage. This implies that the linkages should not destroy the very characteristics and socio-economic dynamics which form the foundations of the savings groups. Using the application of the Capability theory, formal financial institutions should understand savings groups in terms of their capabilities so as to assist them to have the freedom to achieve well-being. The indication is that the OBUL linkage intended to derive the best from the Ugandan savings groups, given their foundation of formation and socio-economic dynamics. Burlando et al. (2020) and Isoke et al. (n.d) opine that the bank loans were given to the groups and not individuals, and the beneficiary group then created internal group loans to members using internal rates.

Burlando et al. (2020) report that the cash flows of the groups, which consisted of the savings and loan repayments, were used to repay group loans, and hence the internal loans repayment was not matched to bank loan repayments. The fact that the internal loans repayments were not matched with bank loan repayments may have given members relief and less pressure to repay internal loans to settle the bank loans. Group loans were repaid monthly (Burlando et al, 2020).

Isoke et al. (n.d) opine that the OBUL provided a convenient distribution mix for its products by making use of a mobile van that moved around the rural areas to facilitate

transactions between the bank and the groups. This implies that transportation costs and the security issues of carrying large sums of money to the bank were reduced as a result of mobile vans, which provided proximity. Isoke et al. (n.d) note that loan orientation and training were done to savings groups. The authors further argue that OBUL assigned relation officers to each savings group to assist with training and monitoring of the group. This implies that OBUL was coordinating the savings groups. According to Isoke et al. (n.d), as of January 2016, 425 savings groups were engaged and provided with financial education. This implies that OBUL adopted an integrated approach whereby, in addition to its offering for financial services, complementary non-financial services such as financial training and education were provided to mould proper financial behaviours among the savings groups.

Isoke et al. (n.d) highlight that the historical performance of the groups (as assessed using the scorecard availed by CARE) was used as an eligibility criterion for access to bank loans. This implies that the group were supposed to display good performance to qualify for loans. This also shows that OBUL was risk-averse and was more concerned about group performance to avail loans to the groups. The authors further highlight that the group's last share-out amount was the basis for calculating the loan amount (Isoke et al, n.d). The groups that had low scores borrowed 50% of their last share-out amount (Isoke et al,n.d). This implies that the poorly performing group were given small loan sizes. This may be as a result of the need for the bank to reduce exposure to default risk as a result of poor group performance.

There was a requirement that the groups put 20% of the value of their loans as a security deposit to hedge against default risk, and this was against the recommendations of CARE International Uganda of uncollateralised lending (Isoke et al., n.d.). Based on the theories of microfinance, OBUL used the institutionalist approach because in its lending decisions, it came with terms of reducing default risk and ensuring that it gets profit or minimises losses from its linkages with savings groups. This is highlighted by the request of collateral (20% of the loan's size) and that for the group to obtain big loans, they should have good historical performance and attractive previous share-out amounts. The implication is that those groups with unattractive socio- economic status were accessing low loan amounts as a bank's strategy to reduce default risk. OBUL failed to understand the fact that since most of the groups are formed by self-selected members, and thus ignored the fact that the

group members can assume joint liability and co-guarantee each other. OBUL also failed to understand the fact that savings group members do self-screening and this can be used as a substitute for collateral.

Burlando et al. (2020) report the following challenges faced by savings groups in linking with the Opportunity Bank Uganda LTD(OBUL):

- Formal registration of the groups with local authorities was a requirement to access bank loans. This requirement required completing forms and signatures of the community representatives. This process may have been time-consuming for the savings groups who are used to flexibility.
- The group needed to have an account with OBUL for funds deposits, management of loan repayments and keeping of excess savings.
- There was a financial regulation in Uganda which required the groups which intended to borrow to have financial identification cards which were issued by the Government of Uganda. There was a need for three (3) group representatives to satisfy the financial identification cards request using their names, submit a biometric reading of their fingers and pay a once off fee.
- There was a need for groups to complete loan application forms, which required more documentation. These processes required visits to the bank branches, which had an implication of the transport costs and time for savings group members.
- Branch members took longer (two weeks or more) to decide on the approval of loans. Approved loans were deposited into the group account, but there were heavy deductions of fees and duties from the loan amounts.
- The deductions amounted to US\$35 (UGX 120 000). This implies that the savings groups did not get the amount of the loans they applied for, given fees and duties deduction and the requirement that they should keep 20% of their loan as a security deposit, as reported by Isoke et al. (n.d).

The views reported by Burlando et al. (2020) and Isoke et al. (n.d) show that, to a greater extent, the linkages between savings groups and OBUL in Uganda sought to benefit OBUL more than the savings groups. This is shown by stringent requirements for the savings groups to access bank loans and unfair and exploitative credit risk management techniques, such as 20% of the loan amount being used as a security

deposit, heavy deductions on the loan amount as a result of fees and duties and the savings groups with low share out amount receiving 50% of the previous share out amount. Linkages require that the banks should be sensitive to the socio-economic status of the groups which they are serving, come up with the products that derive the best from savings groups regardless of the group's socio-economic status (as highlighted by one of the propositions of the Capability theory). Financial literacy programs provided under unfair bank pricing mix strategies might not work, as given the socio-economic conditions of savings groups, group members become sensitive to the costs of accessing formal financial services.

Savings groups-formal banking in Rwanda occurred in 2011 and the savings group which used formal bank products performed better than those which failed to use formal bank products (CARE, 2011). Nakato (2021) opines that savings groups – formal banking linkages have an impact on the performance of savings groups. The researcher highlights that formal financial institutions have to meet regulatory requirements imposed by the central banks, and when the linkage is okay, savings groups have to comply with the strict requirements of formal financial institutions. The researcher contends that the savings groups are informal in nature and their compliance with the requirements of banks might affect their performance. Nakato (2021) argues that savings groups might fail to have the capacity to meet the standards set by formal financial institutions, and this has an impact on the performance of the savings groups. The researcher notes that there are extra costs borne by savings groups as a result of linkages, for example, travelling costs to the nearest branch, and this has an impact on the performance of the savings groups. Nakato (2021) contends that savings linkages and credit linkages have different impacts on the performance of the savings groups. The researcher notes that in savings linkages, the savings groups open a savings account to safely keep their excess funds and also gain trust from the fact that their funds are kept in the bank. The researcher argues that trust, as a result of the security of group funds in the bank, encourages group members to save more and this leads to an increase in the amount of loans available. An increase in borrowing by members increases the equilibrium return on savings and encourages other members to increase savings (Silisyene et al., 2018).

In credit linkage, savings groups get a group loan from formal financial institutions, become jointly liable for the loan and if some members of the group default in

repayment, tension may arise, which may compromise the performance of savings groups (Nakato, 2021). The researcher notes that there may be inequality in the provision of loans despite the joint liability, and this might result in disputes in the group, leading to poor performance of the group. External credit from formal financial institutions may bring dependence syndrome among the group members, and this culminates in a reduction in savings. The researcher further argues that savings groups which have credit linkages experience lower savings per member. The researcher opines that there was an USD32.73 decrease in average savings per member in groups that had credit linkages. This was a reduction in savings by 30.59% as compared to the savings groups which were not linked to formal banking (Nakato, 2021). This is in agreement with Bennet, Goldberg and Hunte (1996) who observe that a dependence scenario is created by credit linkages, which results in the group losing a sense of ownership and also members defaulting on loan repayments. This also concurs with Ndiege et al. (2014), who argue that external funds have negative impacts on the savings motive of savings and credit cooperative societies in Tanzania. Branch and Baker (2000) contend that tension may arise between net savers and net borrowers as a result of credit linkages. The researchers concede that net savers support high interest on loans as they want to earn higher returns from their savings, whilst net borrowers support affordable interest, resulting in tensions. A study conducted by Ngcobo (2024) on the asymmetric impact of stokvel and banking sector efficiency in South Africa using evidence from a non-linear ARDL approach reveals that improvement in the efficiency of the banking sector improves stokvel savings by 0.33%. The decline in the efficiency of the banking sector results in an increase in stokvel savings at a marginally reduced magnitude of 32%.

CARE International (2017) and Eckholf, Kibombo, Natukunda, Pennoti and Vandergaag (2019) report that in Kenya and Tanzania, there was a LINK UP project, which was a linkage programme facilitated by financial institutions (Kenya Commercial Bank, Equity Bank in Kenya, Access Bank in Tanzania and National Microfinance Bank (NMB) between 2014 and 2017. The authors reveal that there was an increase in the return on savings for the groups that opened bank accounts. The outreach to savings groups increased, as indicated by the total of 13,165 savings groups with about 322,000 members in Tanzania and Kenya that had opened bank accounts by the end of the project (Eckholf et al., 2019). Vandergaag, Kwilasa and Krause (2017)

report that the LINK UP project revamped penetration of formal banking institutions to the savings groups in Tanzania and Kenya, resulting in improved group performance in terms of improved ability to meet financial goals, improved degree of control of resources and higher returns for the groups.

Eckhoff et al. (2019) and Vandergaag et al. (2017) highlight that the LINK UP program added value to the savings groups. The authors reveal that the groups which opened bank accounts and participated in the LINK UP project enjoyed higher average returns on savings (33%) as compared to the groups which did not participate in the project, which experienced lower average returns on savings (19%). They argue that the higher average returns on savings (33%) experienced by the linked group translated to a gain of US\$40 to US\$55 per member per cycle. This implies that the participation of savings groups in the formal banking penetration strategy (LINK UP) project resulted in the profitability of the savings groups, resulting in group members enjoying an improvement in returns from their savings and assets. This motivates savings groups to save more, leading to an improvement in the performance of the savings groups. The increase in savings may be attributed to an increase in return on savings, which makes savings attractive to group members. On the other hand, Eckhoff et al. (2019) and Nakato (2021) attribute the increase in savings to the increase in trust due to the perception that the group funds were kept in a safe place. This dispelled fears of losing funds through theft. However, Nakato (2021) opines that financial linkages exert extra costs to the savings groups, such as travelling to banks to make transactions (deposits and withdrawals), and this affects group performance.

Ojo (2021) highlight that the 2019 South African budget review was established by the Ombud Council to facilitate financial inclusion for citizens (especially women in South Africa). Department of Women (2015) and Republic of South Africa (2017) and (2019) cited in Ojo (2021) report that the Government of South Africa partnered with financial institutions to provide financial products to curb financial exclusion in the country. The authors further opine that the services which were provided consisted of financial credits, savings products, agricultural development schemes, low-income housing and day-to-day transactions to assist in the financial inclusion of the citizens. RSA (2019) report that financial literacy programs were launched with the assistance of financial institutions and the National Financial Education Committee, leading to the establishment of 'Money Smart Week'. The author opines that this was a platform for

financial education that involved companies, institutions, communities and schools across the country. World Bank (2017) notes that SA government has set up enough policies that facilitates and promotes a vibrant financial sector in Africa.

Abrahams (2017), Kostov et al. (2015) and Ojo (2021) highlight that the government of SA was involved in establishing the Mzansi account to improve financial inclusion in the country. Post bank (state bank) partnered with all South African banks to launch the product to provide access to finance to lower-level consumers who previously had no experience in banking. According to the 2013 World Bank report, three and a half million funds were used (Ojo, 2021). According to Kostov et al. (2015), this was due to the perception by people that bank charges were high.

Ojo (2021) report that Capitec Bank promoted financial inclusion in South Africa through engaging and training clients, corporate social investments and intervention programs in schools across the country. Capitec Bank offered an effective package to their clients through the 'Global One' initiative (Ojo,2021). The Capitec Bank initiative promoted possession of a transaction account by individuals, access to credit, four savings accounts and internet and mobile banking at affordable fees (Abrahams, 2017). Ojo (2021) report that this intervention resulted in an increase in the Capitec branch network from 52 in 2015 to 826 in 2019. Abrahams (2017) also highlights that Pick n Pay and Shoprite have money transfer solutions that allow people to send and receive money at any branch without bank accounts. The author argues that an individual is only required to have a valid South African identification document to access financial services. Transaction fees are affordable, and the receiver of the funds does not incur costs (Abrahams, 2017).

3.7 BANK-SPECIFIC FACTORS AND SAVINGS GROUPS – FORMAL BANKING LINKAGES

Studies have been conducted on how bank-specific factors such as cost, partnerships with other organisations, bank branch network, bank concentration, ATMs, regulations and policies, and technology use have affected financial inclusion. There is limited literature on how bank-specific factors affect savings groups' linkages to formal banking, for example, the impact of bank-specific factors on access to formal savings and credit by the savings groups.

Scholars such as Brusky (2018), Demirguc-Kunt et al. (2018), McKee, Kaffenberger and Zimmerman (2015), Triki and Faye (2013) and Storchi, Hernandez and McGuinness (2020) affirm that collaboration between formal financial institutions, governments and development partners such as NGOs promotes savings groups-formal banking linkages. Brusky (2018) and Triki and Faye (2013) use the evidence of Burkina Faso, where collaborations, namely Le Réseau des Caisses Populaires du Burkina (RCPB) and la Société pour la Petite Entreprise (SOFIPE), were used to connect savings groups to formal banking. Triki and Faye (2013) and Brusky (2018) argue that FCPB and SOFIPE did not charge savings group fees on fund deposits and only charged fees on withdrawals. This encourages savings groups to deposit their money in formal financial institutions due to fewer charges. Free deposits may encourage people to save, and also the savings group to keep most of their excess funds in formal financial institutions. This fosters savings group-formal banking linkages. McKee, Kaffenberger and Zimmerman (2015), cited in Brusky (2018), in their study on savings groups in Burkina Faso, reveal that savings groups served by SOFIPE and RCPB had a mixed understanding of interest earned on their savings accounts and withdrawal fees. McKee et al. (2015) report that customers are left with no understanding of terms, conditions and prices of financial services. This may raise concerns that the financial services providers cheat their customers. The authors note that the pricing system is not clear and confusing to the customers, as agents vary fees, leaving clients prone to being charged unauthorised fees and agent misconduct. The financial services providers should consider the socio-economic dynamics of savings groups and make pricing decisions of financial products based on the socio-economic characteristics of their clients.

However, the researchers concede that most of the savings group members who participated in the study revealed that they were prepared to open savings accounts with either SOFIPE or RCPB. This implies that these formal financial institutions may need to continue training the savings groups on the products they provide so that the members have a clear understanding of the fees charged and earned on the savings group accounts. This assists the savings group members in adopting formal banking products with a clear understanding of what they expect to gain or lose as a result of using their products. SEEP (2020), using evidence from savings groups in Mali and Uganda, highlights that there is a limited time for savings group facilitators to work with

the groups. The author reports that NGOs have between 3 and 5 years working with savings groups. After this period, NGOs leave savings groups in the hands of volunteers (village agents). The author argues that the village agents may be poorly equipped to work with savings groups because they mainly focus on the short term, not the long term. This implies that the training and assistance that the savings groups obtain from NGOs through village agents do not satisfy the long-term needs of the savings groups, and this may affect the performance and survival of the savings groups.

Formal financial institutions are making partnerships with Non-Governmental Organisations and Mobile Money Services Operators in order to explore alternative channels such as mobile banking agents, mobile phones and mobile money to provide formal financial services to the savings groups (Eckholf et al., 2019). The authors opine that a project called LINK UP, which was used to leverage alternative channels, was established in Kenya and Tanzania from 2014 to 2017. The program was the partnership of National Microfinance Bank (NMB), Access Bank in Tanzania, Equity Bank in Kenya, Kenya Commercial Bank and CARE. There were capacity building initiatives which were targeting savings groups, development of financial products that were tailored to meet the needs of the groups, such as savings accounts. The savings accounts were fully accessed using alternative channels to address the needs of savings groups and facilitated onboarding assistance to savings groups which were willing to use formal financial services (Eckholf et al., 2019). The project was geographically distributed across Tanzania and Northern and Southern Kenya, leading to the improvement of group savings and group security as cash was deposited into the bank savings account and was no longer stored in a cash box.

Savings groups received training from the LINKUP programme (CARE International, 2017). The author reports that the facilitating agents who were spearheading the Link-Up project built confidence among the group members. The author further reports a case where members of savings groups in Nyamira in Kenya, were accompanied by the facilitating agents to make bank transactions (bank deposits and withdrawals) with Equity Bank. The facilitating agents instilled confidence in group members on how to interact with bank security guards.

Facilitating agents informed the group members that they should not be afraid of the bank security guards because the role of the security guards is to protect bank customers (CARE International, 2017). The author further highlights that the savings group members were assisted in depositing and withdrawing funds from an Automated Teller Machine (ATM) and how to keep the PIN code secret. The author argues that the facilitating agents demonstrated to savings group members how cash withdrawals are done in an ATM and allowed the members to count the money and confirm whether it matched the total amount on the withdrawal slip. The author noted that savings group members indicated happiness when they noticed that the amount withdrawn tallied with the amount on the slip, and this built confidence in savings group members to make bank transactions. This indicates the importance of making practical financial literacy programs for savings group members by practically demonstrating how bank transactions are conducted. This removes fear and builds confidence among savings group members, which promotes linkages. This helps in overcoming the lack of financial literacy weakness of most of the savings group members, given their socio-economic circumstances.

Storchi, Hernandez and McGuinness (2020) observe that there have been collaborations between the formal financial institutions and the government to make sure that formal banking is within the reach of the people. However, Storchi et al. (2020) and Demirguc-Kunt et al. (2018) are in agreement that despite the collaborative efforts of the governments and formal financial institutions to ensure that the poor have access to formal banking accounts, there has been low usage and high dormancy of the banking account. This implies that despite the efforts to link the poor with formal financial services, the poor do not often use the accounts. Storchi et al. (2020) point out the need for financial institutions to understand their roles in improving the lives of the poor.

According to the Ministry of Finance and Economic Affairs (MoFEA), Malawi (2024), Malawi had a National Strategy for Financial Inclusion II (NSFI-II) from 2014 to 2020. MoFEA (2024) notes that the objectives of NSFI II were as follows:

- To improve the digital payment reach.
- To improve savings and investment opportunities, mainly through savings groups.

- To expand access to finance for Micro, Small, to Medium Enterprises (MSMEs) and agriculture.
- To reduce vulnerability through the exploitation of niche insurance opportunities.
- To promote consumer education and empowerment.
- To promote national coordination of financial inclusion.

According to MoFEA (2024), Malawi reported an increase in access by adults to formal financial services from 34% in 2014 to 46.1% in 2018. The author further highlights that women's access to formal financial services increased from 29% in 2014 to 36% in 2018. However, this was below the Strategy's target for women's access to formal financial services of 55%. MoFEA (2024) argues that financial exclusion in Malawi reduced from 51% in 2014 to 22% in 2018, and this can be attributed to the growth of savings and loans groups in the country. MoFEA (2024) reports the increase in the number of access points in Malawi per 100,000 adults from 12.5 accesses per 100,000 adults in 2016 to 109.76 access points per 100,000 adults in 2018. This was far above the strategy's target of 25 access points per 100,000 adults. The authors also report an increase in 90-day active users of digital financial services from 1.2 million users in 2015 to 6.7 million users in 2020, against the strategy's target of 3 million users. The author attributes the achievements to the enactment of the Payment Systems ACT 2016, Mobile Money Operators were integrated into the National Switch, the Interoperability Directive of 2017, E-Money regulations were put in place, and the Automated Transfer System (ATS) was implemented in 2014. Despite the above highlighted achievements, the author opines that the strategy failed to achieve its objective of reducing the cost of using a bank account from 17% to 5%.

According to MoFEA (2024), the Government of Malawi, in collaboration with the Registrar of Financial Institutions, established a policy position of non-regulation of savings groups (VSLAs). This was meant to avoid stifling rural innovation and instead promoted the linkages of VSLAs to formal banking. Collaborations between the Government of Malawi and the Registrar for Financial Institutions rolled out financial literacy programs to the consumers of financial services in Malawi (MoFEA, 2024). MoFEA (2024) opines that in 2017, the Financial Services Ombudsman Bill and the Financial Consumer Protection Bill were developed to promote consumer protection and handling consumer complaints. However, the author reports that the Bills

remained at the draft stages. Despite the Bills remaining at draft stages, consumer protection was promoted but remains low (MoFEA, 2024).

There was a decrease in financial complaints handled by the Registrar of Financial Institutions from 578 cases per annum in 2021 to 432 cases per annum in 2022 (MoFEA, 2024). However, MoFEA (2024) reports that female business owners in Lilongwe and Blantyre lacked awareness of the process to handle financial complaints, and they did not know how to engage the regulator if they were not satisfied with the way a financial institution was handling complaints.

In South Africa, regulations such as the Co-operative Bank Act and Bank Development Agency, which were established in 2009, were very harsh to growing and Small Cooperatives Financial Institutions (CFIs), deterring them from the regulated industry (Mushonga et al, 2018). This implies that the regulations for CFIs were not in line with the operations and the characteristics of CFIs, and hence, this reduced the attractiveness of the regulated industry to them.

Adams and Tewari (2020) raise the need for regulation of the Microfinance Sector so as to increase the outreach to those who are financially excluded. The authors opine that consumer protection helps in building governance of MFIs, strengthens business standards and helps to create the demand for the MFIs' product. Regulations affect the outreach of MFIs and hence, affect the accessibility of the financial services by those at the bottom of the pyramid. Protection of clients is very weak in developing countries, where many customers do not know the financial contracts to engage in a meaningful relationship with financial institutions (Adams and Tewari, 2020). Mader (2013), cited in Adams and Tewari (2020), reports that weak laws and poor regulation of the MFI sector have resulted in the exploitation of clients, with some committing suicide in Andhra Pradesh in India.

Ahmed- Karim, Alders-Sleya and Sluijs (2015), cited in Adams and Tewari (2020) opine that the MFI sector is under public scrutiny as there are calls for accountability, transparency, and also rising indebtedness of clients. Tadele, Roberts and Whiting (2018) opine that MFIs in SSA lack transparency. This creates a lack of trust and confidence, which may compromise linking informal financial institutions to formal banking. Ahmed- Karim et al (2015), cited in Adams and Tewari (2020), report the inadequacy of regulations of the MFI sector in Africa as a result of the lack of

enforcement of MFIs' laws. The authors note that in Africa, client protection is not the main priority of the regulators as it falls outside the boundaries of their monitoring efforts.

When the regulations are too harsh, weak and poorly enforced, they compromise linking informal financial organisations to the formal and regulated financial institutions. In informal organisations, members value flexibility and social capital, resulting in informal financial organisations becoming reluctant to access formal financial services due to the nature of regulations. This implies that despite the efforts to promote savings groups-formal banking through collaboration among various stakeholders, there is a need to understand the socio-economic status of the poor before advancing any measure to curb poverty among the poor. There is also a need for the regulators to ensure that the regulations are in line with the socio-economic circumstances of the poor. Regulations should protect the poor from exploitation by the formal financial organisations. The regulations should be well enforced and monitored so as to provide symbiotic linkages between informal financial institutions and the formal ones.

Allen et al. (2016), Frolich and Nguyen (2020), Karlan et al. (2014) and World Bank (2014) argue that there are costs associated with the usage of formal financial services, such as withdrawal fees, transportation costs, account opening costs and minimum balance requirements. The authors opine that bank charges are barriers to access to formal banking among the savings groups. The researchers further highlight that some savings group members in Zambia did not understand why they should pay banking fees. This may be as a result of a lack of financial literacy, making them fail to understand the reason why they should be charged banking fees. This implies that bank charges make savings groups unwilling to use formal banking products, and formal banking institutions should strike a balance between the affordability of their services and their financial sustainability.

On the other hand, Karlan et al. (2014) and Dupas and Robinson (2013a) observe that subsidising the opening and maintenance costs of bank accounts leads to an increase in the adoption of formal savings accounts. Dupas and Robinson (2013a) conducted a study in Kenya to explore the provision of subsidies on the costs of accessing formal financial services, and the study revealed that there is a positive impact of eliminating opening costs on the uptake of formal savings services. Dupas

and Robinson (2013a) conducted a study in Kenya whereby the bicycle taxi drivers and market vendors were the participants; they provided the account opening and maintenance fees of 450Ksh and 100 KSh, respectively and ordered the participants not to withdraw the minimum balance. Their study found that forty-seven per cent (47%) of the 156 treatment group members managed to open the account and used it once, and forty-one per cent (41%) of the 156 treatment group members opened the account and became active users. This implies that when the poor are provided with money to eliminate the cost of using banking products, they can adopt prudent finance.

Burlando et al. (2020) purport that formal banking institutions promote savings groups-formal banking linkages through product mix strategy. Burlando, Goldberg and Etcheverry (2020) observe that in five districts of Uganda, formal financial institutions such as banks have come up with delegated credit products (credit linkage) to provide credit to the savings groups. The researchers contend that the delegated credit product is complemented by a savings account where the loan is provided to the savings group as a whole and not to individual members. The savings groups can then create internal loans from the credit advanced by the bank (Burlando et al., 2020). This is in agreement with the State of Linkage Report (2016), which reports that banks in 27 Sub-Saharan countries provided bank loans to the savings groups. Burlando et al. (2020) opine that repayment of the bank loan by savings groups comes from repayment of internal loans and accumulated savings. The researchers posit that for the savings groups to access formal financial services, they have to incur the costs of visiting bank branches, and this raises the cost of accessing the liquidity of the group. Therefore, the bank-specific factor is the product mix strategy provided by formal banking institutions. This insinuates that the product provided by formal banking institutions should address the needs of the savings groups. This is a departure from the offerings by other formal banking institutions, which are designed to be 'one jacket fits all', where savings groups are provided with whatever products, without taking into consideration their dynamics and unique needs.

Biscaye et al. (2014:13) and MasterCard Foundation (2014) report that bank regulations affect savings group-formal banking in India. MasterCard Foundation (2014) and Biscayne et al. (2014) argue that linkages between savings groups and formal financial institutions in Africa are promoted by few and inadequate legal

frameworks which support access to formal banking services by the savings groups. Ivatury and Mas (2005) and Jentzsch (2009), cited in Karlan et al. (2014), opine that stringent account opening requirements hinder the poor from having bank accounts. This is in agreement with the study by Chin et al. (2011) in Mexico, which used a sample of 184 Mexican immigrants in the United States of America, where 99 immigrants were selected randomly to receive waivers of US\$27 and assistance to get national identity cards. The study reveals that there was a 38% probability of an increase in savings in five months among the immigrants from the treatment group after the assistance to obtain national identity documents. Landman and Mthombeni (2021) and Ngcobo (2024) argue that the lack of valid identity documentation hinders stokvel members from accessing and usage of formal banking. Identity documentation is the initial requirement for opening a bank account. Their absence or inadequacy indicates that stokvel members or low-income people may not open and use a bank account.

Beck et al. (2008), cited in Dupas et al. (2016) asserted that bank account usage in developing countries is hindered by high bank fees. For example, the researchers highlight that the annual maintenance fees in Malawi and Uganda were reported to be more than 20% of the GDP per Capita. This implies that formal banking institutions in Malawi and Uganda charge exorbitant bank charges, and this might prevent access to formal financial services by the poor.

Formal financial institutions such as commercial banks and microfinance institutions should meet regulatory demands by having details and data of their customers (Know-Your-Customer) before account opening (Financial Inclusion Strategy Peer Learning Group, 2020). According to Nakato (2021), formal financial institutions are regulated by central banks. Formal financial institutions follow certain procedures and requirements to comply with the central bank (Nakato, 2021). The author highlights that one of the requirements is Know-Your-Customer requirements, where customers have to provide adequate documentation and the bank has to make service checks. Savings groups have to comply with those requirements (Nakato, 2021). This is a major setback, mainly to rural women, as they have challenges with obtaining the right documents, leading to financial exclusion. Poor communication makes formal financial products not known to the poor.

Most of the financial services providers do not communicate in local languages or do not use local leaders as brand ambassadors for their products (Financial Inclusion Strategy Peer Learning Group, 2020). Inadequate communication inherently poses challenges to circumvent formal banking products, hence, reduces uptake of formal financial products (Financial Inclusion Strategy Peer Learning Group, 2020). High bank charges and a lack of communication on the adjustment of tariffs have reduced the trust of women in formal financial products (Financial Inclusion Strategy Peer Learning Group, 2020). This is against the background that most of the rural women are poor and have low income, and they cannot sustain the use of formal banking accounts given high bank charges (Financial Inclusion Strategy Peer Learning Group, 2020).

Grohmann (2018) and Pomeroy et al. (2020) explain the importance of infrastructure improvement, such as bank branch networks, automated teller machines and also through improvement in financial education on access to formal banking by the poor. Amianti (2015), cited in Shrestha and Nursamsu (2020), observed that four major commercial banks in Indonesia launched a financial service known as *Laku Pandai*, where banks provided basic microinsurance, loans and savings services through agents. Diela (2016), cited in Shrestha and Nursamsu (2020), contends that there were regulatory changes which were brought by the Bank of Indonesia, which facilitated access to financial services by people. Shrestha and Nursamsu (2020), using the Indonesian Family Life Survey (IFLS), contend that poor households are more likely to have savings accounts if they reside in areas where there are many bank branches. The studies by Brugess and Pande (2005) in India on bank branch expansion between 1977 and 1990 and Aportela (1999) in Mexico on governmental postal savings bank expansion confirm access to formal financial services by the poor. Another study conducted by Flory (2011) on the use of mobile van bank wheels to provide financial services to the geographically excluded population using a two-year panel data set, consisting of 2006 households collected in the pre-harvest season, revealed that the uptake of banking products remained very low among the poor despite the intervention.

Gashayie and Singh (2016) note that there was a skewed distribution of bank branches in Ethiopia, with the distribution of banks more biased towards urban areas. The capital city, Addis Ababa, in 2013 and 2014, accounted for 34% of bank branches.

This inhibits savings groups – formal banking. Savings groups which are located in rural areas of Ethiopia might have challenges in accessing formal banking services, as most banks are located in urban areas. According to the United Nations Conference on Trade and Development (UNCTD) (2018), Liberia has 93 bank branches, with Monrovia having the majority of the branches. Four (4) out of 15 counties in Liberia do not have commercial banks. According to the Central Bank of Liberia (n.d), 64% of the adult population in Liberia does not own a bank account, and 71% of the adults without a bank account are women. The concentration of bank branches in urban areas on its own shows that the financial institutions are more concerned with dealing with the urban population at the expense of the rural people.

Ashraf et al. (2006b) cited in Karlan et al. (2014) conducted a study in the Philippines where micro- savers were offered with deposit collection services of a rural bank and the study revealed that distance was a major determinant of uptake of financial services and for every 10 kilometres between the home of the clients and the bank there was 6% probability of uptake of banking products. The researchers further reported that in situations where the micro-saver resided near the deposit collector, there was a 40% increase in savings compared to the micro-savers who resided far from the deposit collector. This implies that the distance travelled to the nearest branch had an impact on the uptake of formal financial services. Proximity of a financial institution to its clients is very important as it determines extra travelling costs to the formal institutions. When the distance to the financial institution is very long, savings group may suffer risk of carrying cash over long distance. This explains the reluctance of micro- savers in dealing with distant mainstream banking institutions. This is in agreement with Schaner (2013c), who argued that increased geographic access to banks through ATM networks in Kenya increased savings transactions. Schaner (2013) observed that ATMs reduced transaction fees.

Chinoda and Kwenda (2019), European Investment Bank (2017), Pande, Cole, Sivasankaran, Bastian and Durlacher (2012), Global Findex (2021), Brusky (2018), Kumar, Prdhi and Bisen (2017), Mossie (2022), and Panda and Misra (2017) observe the role of technology in improving financial inclusion. The researchers further contend that the use of digital platforms is very affordable to formal financial institutions as compared to setting up bank branches. Senou et al. (2019) argue that digital platforms are cheaper than physical platforms as they reduce the travelling costs to and from

formal banking institutions. Brusky (2018), CARE in East Africa (2016), GSMA (2016) and SEEP Network (2016) observe the role of mobile money services in linking savings groups to formal banking. According to the researchers, mobile money services have improved the outreach of formal financial services providers and have ensured that savings groups in East Africa have access to formal financial services. Mobile money services have provided cost-effective mechanisms for formal financial services providers to reach out to many savings groups in Eastern African countries such as Kenya (SEEP Network, 2016). According to SEEP Network (2016), in Kenya, Equity Bank has established a wide agent network, operating a mobile money service (Equitel) and rides on Non-Governmental Organisations (NGOs) such as CARE to reach out to the savings groups in Kenya. Savings groups are able to deposit and withdraw their funds from the Equity Bank accounts without bank charges. The partnership of formal financial services providers with development agencies such as NGOs and financial innovation, such as linkages to mobile money services, is crucial in promoting access to formal banking services by savings groups. GSMA (2015) supports that mobile money services have enabled formal financial institutions in SSA countries to overcome barriers such as physical infrastructure, juristic regimes and social trust issues. This implies that mobile money services, global organisations and NGOs have also assisted savings groups in remote areas of SSA to access formal banking.

3.8 HYPOTHESISED SAVINGS GROUP–FORMAL BANKING LINKAGE

The chapter used Welfarist, Institutional, Trust and Capability theories to underpin savings groups-formal banking linkage. The study hypothesised that access to formal banking by savings groups is affected by savings group composition and status, group performance and bank-specific factors. Savings groups' composition and status features, such as gender (percentage of female or male members in the group), group size (average number of members), average savings per member, religion and cultural beliefs of members, income levels of members and financial literacy and education among members, influence the decisions of savings groups to adopt mainstream financial products. Group performance indicators such as Return on Assets (ROA), Return on Savings (ROS), fund utilisation rate, average savings per member and average loan size per member determine the sustainability of the savings groups and

the basis upon which savings groups are attracted to formal banking institutions. Bank-specific factors such as branch network, costs of formal banking products (bank charges), number of ATMs, use of technology by banking institutions, bank concentration and collaboration between banks and other organisations (governments, NGOs and telecommunication companies) determine the outreach of formal banking institutions and access to formal banking by the savings groups.

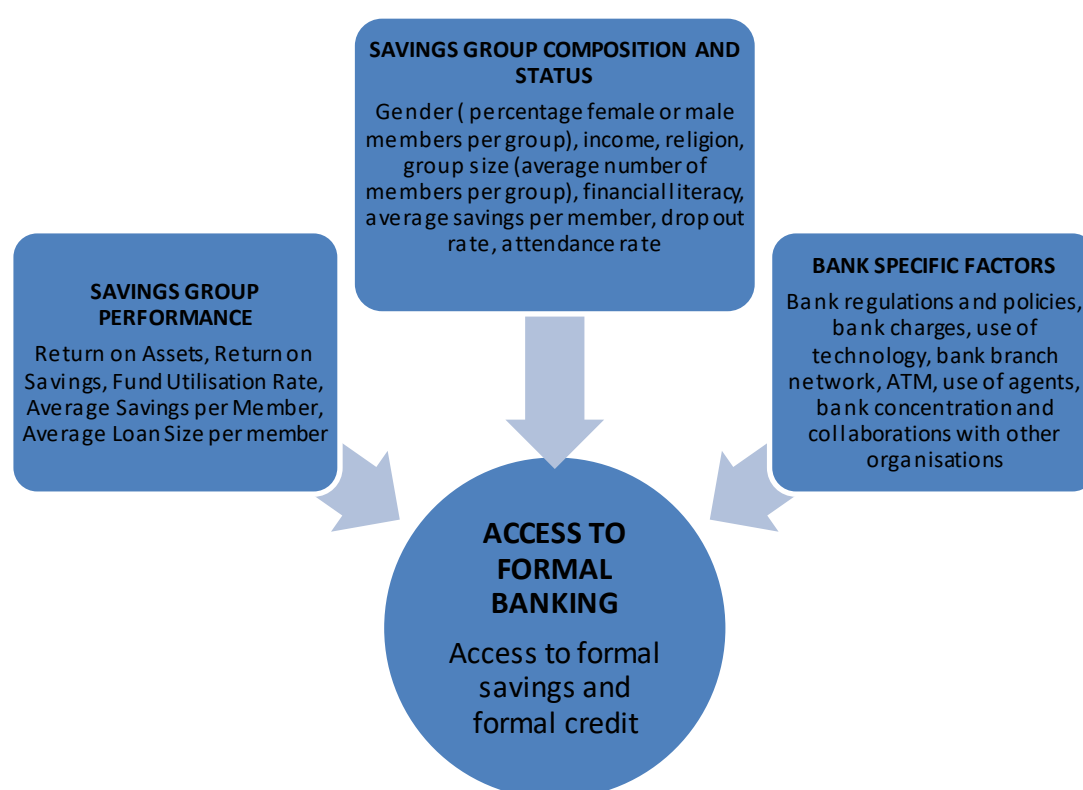


Figure 3.1: Research Conceptual Framework

Source: Author Compilation

3.9 SUMMARY

This chapter highlighted those studies on savings groups-formal banking are lacking. The majority of the studies, such as Beaman et al. (2014), Burlando et al. (2020), Ndiege et al. (2014), SEEP (2017), and Vision Fund (2018), among others, focused mainly on the impact of savings groups-formal banking linkage on savings group performance instead of the impact of savings group performance on access to formal

banking. Studies on aspects of group composition, such as income levels, gender, financial education, religion and cultural beliefs mainly focused on financial inclusion without specifically narrowing to savings groups. The studies on bank-specific factors (Dupas and Robison, 2013a; Dermigu–Kunt et al., 2018; Storch et al., 2020) focused on financial inclusion without giving much focus on how bank-specific factors affected access to formal banking by the savings groups. The following chapter elucidates methodological approaches.

CHAPTER FOUR

THE REVIEW OF METHODOLOGICAL APPROACHES

4.1 INTRODUCTION

There is no consensus among the previous studies on savings groups and formal banking. Previous studies have done little on the impact of savings groups' composition and status, performance and bank-specific factors on access to formal banking by savings groups. For example, studies such as Nakato (2021) focused on how savings group formal linkages affect the performance of the savings groups. The author did not clearly show the impact of savings groups' performance on access to formal banking by the savings groups. Various indicators have been used by different studies to measure access to formal banking, savings groups' status, composition and performance and bank-specific factors affecting access to formal banking by the savings groups. Again, previous studies have applied various estimation techniques to investigate the linkages between savings groups and formal banking. The estimation models that have been used include the Differences in Differences (DiD) approach, Ordinary Least Square (OLS) regression and the instrumental variable approach. The first section of this chapter reviews various measures that have been used by previous studies to measure access to formal banking, savings groups composition, status and performance and bank-specific factors affecting access to formal banking by the savings groups. The second section focuses on the estimation approaches that were used to evaluate savings groups and formal banking linkages.

4.2 METHODOLOGICAL APPROACHES IN PREVIOUS STUDIES

This section reviews the methodological issues on savings groups and formal banking that were used in previous studies. This is done by specifying the measurement variables adopted to investigate savings group-formal banking linkages.

Table 4.1: Measures adopted to investigate savings groups-formal banking linkages and the related literature

Name of the variable	Variable Definition	Impact on the linkages	Studies
Ownership of bank account by savings group members.	Number of savings group members with a bank account.	Positive	Makina (2019), Wale and Makina (2017), World Bank (2017), Karlan et al. (2014) and Silisyene et al. (2018).
Number of bank branches	Number of bank branches.	Positive	Silisyene et al. (2018) and Karlan et al. (2014)
Proximity of branches to savings groups.	The average distance from the location of savings groups to the nearest bank branches.	Positive	Silisyene et al. (2018) and Karlan et al. (2014).
Interest on deposit	Interest on deposit	Positive	Silisyene et al. (2018) and Karlan et al. (2014).
Usage of mobile banking	Number of savings group members using mobile banking.	Positive	Silisyene et al. (2018) and Karlan et al. (2014).
Number of Automated Teller Machines (ATMs).	Number of Automated Teller Machines.	Positive	Silisyene et al. (2018) and Karlan et al. (2014).
Return on Assets of Savings groups		Positive	Mersland et al. (2019), Nakato (2021), Bulrandanod Canidio

	Net Income / Total Assets		(2017), Burlando et al. (2020)
Return on Equity	Net Income / Total Equity	Positive	Mersland et al. (2019) and Nakato (2021)
Return on Savings Groups	Net Income / Total Equity	Positive	Mersland et al. (2019), Nakato (2021), Canidio and Burlando (2017)
Percentage of female group members.	Number of female group members divided by the number of members in a group.	Positive	Mersland et al. (2019) and Nakato (2021), Cassidy and Fafchamps (2019)
Percentage of male members in savings groups	Number of male members in savings groups divided by the number of members in the group.	Negative	Cassidy and Fafchamps (2019), Mersland et al. (2019) and Nakato (2021)
Number of supervised groups.	Number of supervised groups.	Positive	Mersland et al. (2019) and Nakato (2021)
Business education	The number of savings group members who were trained in business.	Positive	Mersland et al. (2019) and Nakato (2021)
Number of income-generating activities.	Number of income-generating activities.	Psotive	Mersland et al. (2019) and Nakato (2021)

Women empowerment indicator	Justice and governance in savings groups	Positive	Mersland et al. (2019) and Nakato (2021)
Savings group members' attendance.	Number of savings group members who regularly attend meetings	Positive	Mersland et al. (2019) and Nakato (2021)
Savings group members' contributions	The number of savings group members who regularly make contributions.	Positive	Mersland et al. (2019) and Nakato (2021)
Bank Concentration	The sum of assets of the three largest banks divided by the assets of the banking sector for banking institutions in BankScope.	Negative	Chauvet and Jacolin (2017)
Inflation	Consumer Price Index	Negative	Global Findex (2021). King and Levine (1992)
Real GDP	(Nominal GDP/ Deflator) X 100	Positive	Global Findex (2021)

Source: Author Compilation

4.3 MEASURES OF SAVINGS GROUP COMPOSITION AND STATUS

Mersland et al. (2019) and Nakato (2021) opine that some savings groups are provided with plus services by NGOs or facilitating agencies. Therefore, additional services provided to the savings group is another indicator of savings group status. Mersland et al. (2019) contend that the plus services include employment skills, provision of income-generating activities, business–financial education, climate

change education, health programs (e.g., HIV programs), agricultural programs and employment skills. Such services promote the stability and sustainability of savings groups. The indicator 'without plus services' means those savings groups are not offered complementary non-financial services (Mersland et al., 2019). This implies that financial services are the only products provided by the savings groups. Absence of plus services from savings groups implies that the savings group members miss the complementary non-financial services which seek to empower them. The savings group members would face difficulty in ascending to entrepreneurial status when they miss plus services such as financial education, business development and money management. The group members might miss the opportunities and knowledge of establishing, managing and expanding their income-generating initiatives. This has a negative impact on the group members themselves, their participation in the group and the group's performance. Members who lack plus services such as financial education would lack the knowledge to productively use the loans from the savings groups to boost their income-generating activities. This might compromise their savings contributions in the group and their loan repayment capacity, which in turn compromises their participation in the group and group performance.

Nakato (2021) also opines that 'adds on', which are development initiatives provided to savings groups, such as health education and women's empowerment instruction, are the indicators of group composition and status. Development initiatives are measured through a dummy that is assigned the value 1 if the group has access to development initiatives or 0 otherwise (Nakato, 2021). These developmental initiatives enable the group members to use the loans that they get from the group productively. The development initiative changes the savings group members from being core poor to being entrepreneurial poor because it ensures that the members are equipped with business development skills. Business development skills enable the group members to use credit productively by establishing or expanding income-generating initiatives, which in turn will improve their savings contribution and loan repayment capacity in the group.

Nakato (2021) notes that financial education is another variable of the savings group status. The author measured financial education through a dummy variable that is assigned a value of 1 if the savings group was provided financial education and 0 otherwise. According to Nakato (2021), there is a variation of financial education given

to savings group members by the facilitating agencies. This implies that financial education depends on the type of facilitating agents and the nature of the savings groups and may be tailored to meet the needs of each savings group. Nakato (2021) and Mersland et al. (2019) contend that variables such as group meetings, attendance rate and gender characteristics of the group are the indicators for the composition of the savings groups. Nakato (2021) reports that the members' attendance rate is a percentage of members attending savings group meetings. Mersland et al. (2019) argue that members' attendance influences group performance because when attendance improves, default rates decrease, leading to an improvement in the financial performance of the group.

SAVIX (2019), Nakato (2021) and Cassidy and Fafchamps (2019) opine that gender composition is measured by the percentage of males and females in the savings groups. The gender composition of savings group members is the variable which indicates the composition of both men and women in the savings groups. The researchers report that when the group has a majority of female members, default rates are reduced, leading to positive financial returns from the group. The authors stated that there are variations in savings groups in terms of gender, whereby groups may be all male, all female and mixed gender classes. Cassidy and Fafchamps (2019) also stated that group composition can be measured based on occupational composition. This is what the group members do to earn a living. The authors stated that savings groups can be composed of both farmers and non-farmers.

Mersland, Nyarko and Szafark (2019) and D'Espallier, Guerin and Mersland (2013), cited in Nakato (2021), opine that the size of the savings group is the indicator of the group composition and status. The authors measured the size of the savings group by the natural algorithm of the total assets of the savings group. Nakato (2021) argues that the larger the group, the more likely it is for the group to be linked to formal banking. The author notes that larger groups have more assets, and this makes it easier to link them with formal banking. This is because the present value of the assets of the group determines whether formal banking institutions are willing to provide credit to the savings groups. This is in disagreement with Cuevas and Schrieder (1991), Forlich and Nguyen (2020) and Sharma and Zeller (1997), who argue that larger groups have difficulties in management and are likely to experience internal conflicts

and free rider problems. However, Nakato (2021) opines that due to scale effects, larger groups may benefit more from linkages as compared to smaller groups.

Nakato (2021) contends that the age of the group is a variable that indicates the status of the group. The age of the group is measured as the age of the group in days. Nakato (2021) contends that as a group matures, members gain mutual knowledge and social capital, which is very important for the stability of the group. This implies that the older the group becomes, the more experience and improvement in the ability to run the group activities, which may improve group performance. The dropout rate is a measure of group status. According to Nakato (2021), the dropout rate is the percentage of savings group members leaving the group for different reasons. Savings group location, whether in rural or urban areas, is another measure of savings group status (Nakato, 2021). Savings groups' rural location was measured using a rural location dummy to account for the variations in savings groups located in rural and urban areas (Nakato, 2021). Savings groups located in urban areas might have many advantages as compared to those in rural areas, such as being geographically close to formal financial institutions, access to more economic activities and members' proximity to each other, which improves meeting attendance and savings. However, on the other hand, Balad and Platteau (2000), cited in Panman et al. (2021), support that savings groups in urban areas face challenges of collective action as a result of the fragmentation of people. Balad and Platteau (2000) report that people in urban areas do not stay in one place for a long period, given the fact that most of them might be tenants, and this destroys collective action. On the other hand, Panman et al. (2021) report that in Dar Salaam, 57% of households are tenants and they live in the same accommodation for an average time frame of 4 years.

Cassidy and Fafchamps (2019) argue that the number of group members is a measure of the status of the group. The number of group members determines the size of the savings groups. This has an implication on the extent to which savings groups are linked to formal banking. The authors contend that the average group size was 25 members. A savings group has members ranging from 10 to 45.

4.4 MEASURES OF SAVINGS GROUP PERFORMANCE

Mersland et al. (2019), Nakato (2021), Ledgerwood et al. (2013), Greaney et al. (2016) and Burlando and Canidio (2017) report that savings per member is the measure of

financial performance of the savings groups. According to Nakato (2021), savings per member is calculated by dividing total savings by the number of members. This was done based on the view that once the savings from members are pooled together, they can generate loans which are availed to the members at a certain rate of interest. Mersland et al. (2019) also report that savings per member is a measure of the financial performance of the savings groups. On the other hand, Mersland et al. (2019) argue that savings per member is measured by dividing the net amount of savings by active membership in the savings groups. Mersland et al. (2019) differ from Nakato (2021) by stating that savings per member is measured using the members who are active and still participating in group activities, whilst Nakato (2021) used members regardless of whether they are active or passive members. Burlando and Canidio (2017) measured savings group performance based on Return on Savings. The author notes that the return on savings was calculated as follows:

Return on Savings = $r \left(\frac{B}{S} \right)$, where r is denoted interest on loans, B is the aggregate end-of-cycle borrowing, and S is the total end-of-cycle savings. This implies that as borrowing increases, the return on savings is expected to increase as the interest component from the loans also increases. The ability of the group to give out large sums of money as loans, subject to the repayment capacity of the members, has a bearing on the return on savings and savings group performance. Mersland et al. (2019) calculated the return on savings through the summation of cash in the cashbox, bank balance, group's property and the value of the outstanding loans minus the property of the group when the cycle starts, net value of savings and group's debts. The authors stated that the returns are divided by the average net value of the group's savings. Nakato (2021) reports that the fund utilization rate is a measure of the performance of savings groups. Fund utilisation rate is the extent to which savings are converted into loans (Nakato, 2021). Nakato (2021) calculated the fund utilization rate as the amount of loans divided by the amount of savings.

Mersland et al. (2019) also measured the performance of the savings groups using the return on assets. The authors calculated the return on assets through the summation of cash in the cashbox, bank balance, group's property and the value of the outstanding loans minus the property of the group when the cycle ends, net value of savings and group's debts. The authors stated that the returns are divided by the

average net value of the group's assets. Thus, they measured the extent to which the assets of the savings groups generate a return for the group. This might imply that if large amounts of savings are converted to loans, the fund utilization rate also increases. However, this performance measure may not be effective in the sense that, despite large amounts of money being given out as loans, defaults may contribute to poor performance of savings groups despite higher fund utilisation rates. Fund utilisation rate is of significance to the group members when loans are used for the intended purpose (absence of credit fungibility) and when the members can repay the loans. When loans are used for the intended purpose, there is a likelihood that the income generation capacity of the members improves and loan default rates decrease, leading to an improvement in group performance. Burlando and Canidio (2017) argue that the total share out per member is another measure of performance of the group. The authors calculated the total share out per person as follows:

$$\text{Total Share out per person} = (1 + r \left(\frac{B}{S}\right)) (Si \dots t) \dots \dots \dots 1$$

Where S and B are aggregate savings and borrowing per cycle, respectively, r is the interest on the loan, and Si...t are the total savings per person at the end of the cycle.

According to Mersland et al. (2019), equity per member is an indicator of the financial performance of the savings groups. The authors measured equity per member by dividing equity by active membership in the group. The average asset per member was also used as an indicator for the financial performance of the group and was calculated as the total assets of the savings groups divided by the number of active members in the group. According to Mersland et al. (2019), the net asset value of the group is the summation of the balance in the bank, cash in the cashbox, the value of loans outstanding and the group's property. Mersland et al. (2019) also opine that the savings-to-loan ratio is a measure of the financial performance of savings groups. The savings-to-loan ratio is the net amount of savings divided by the amount of outstanding loans (Mersland et al., 2019).

4.5 MEASURES OF BANK-SPECIFIC FACTORS

According to Gashayie and Singh (2016), the number of bank branches per population is another measure of banking development in the country. The authors stated that the number of commercial bank branches to population ratio in Ethiopia for the fiscal

year of 2011 was one commercial bank branch to 126,000 people. This implies that one bank served many people. This suggests that banking development, as measured by commercial banks per population, is very low. This may result in high financial exclusion levels. The International Monetary Fund Access Survey (2014) also used the number of banks to population as a measure of financial development. IMF Financial Access Survey cited in Gashayie and Singh (2016), Dermiguc – Kunt, Klapper, Singer and Oudheusden (2014) and Sarma (2008) cited in Park and Mercado (2015) used various financial access indicators such as commercial bank branches per 1000 square kilometres, distribution of Automated Teller Machines (ATMs), commercial bank branch network, ATM per 100,000 adults, outstanding deposit with commercial banks (% of Gross Domestic Product), deposit accounts with commercial banks per 1000 adults and outstanding loans from commercial banks (% of GDP) in Ghana, Kenya, India, South Africa, Ethiopia and Malaysia. Dermiguc-Kunt et al. (2014) report that ATM usage positively affects the usage of formal financial services. This may be because ATM provides convenience as people save time in visiting bank branches.

Sarma (2008), cited in Park and Mercado (2015), further notes that indicators, namely, borrowers from commercial banks per 1000 adults, depositors with commercial banks per 1000 adults and domestic credit to GDP ratio are other indicators of financial inclusion. Borrowers from commercial banks per 1000 adults, depositors with commercial bank branches per 1000 adults and domestic credit to GDP ratio reflect the usage dimension of financial inclusion (Sarma, 2008). Automated Teller Machines (ATMs) per 100000 adults and commercial bank branches per 100000 adults reflect the banking services availability dimension of financial inclusion. Dermiguc-Kunt et al. (2014) contend that the use of mobile money services can also indicate access of people to formal financial institutions. Mobile money is most common in Sub-Saharan African countries (Dermiguc-Kunt et al., 2014). The users of mobile money services can access bank accounts at a formal financial institution and transact (Dermiguc-Kunt et al., 2014).

Wale and Makina (2017) opine that the cost related to opening a bank account and maintaining it determines the usage of financial services. Therefore, account opening and maintenance costs are variables that can determine the extent to which savings groups can be linked to formal banking. Dermiguc-Kunt et al. (2014) concur with Wale

and Makina (2017) by stating that costs and documentation requirements also determine access to formal banking. Dermiguc-Kunt et al. (2014) argue that annual fees and fixed transaction costs result in transactions being unaffordable. The researchers also opine that documentation requirements result in a lack of access to account ownership, and this mainly affects rural people. Therefore, the availability of proper documentation among savings group members may determine their access to formal banking.

4.6 MEASURES OF ACCESS TO FORMAL BANKING

There are various views on measures of access to formal banking from various scholars. According to the African Development Bank (2013) and Alliance for Financial Inclusion Data Working Group (2011), financial inclusion is measured using various dimensions, namely usage, access and quality. African Development Bank (2013) argues that it is necessary to define the usage of financial services based on access and quality of financial services. Allen et al (2012), Alliance for Financial Inclusion Data Working Group (2011), African Development Bank (2013), Wale and Makina (2017) and Shrestha and Nursamsu (2020) opine that account ownership can be used to measure access to formal banking. The researchers note that account ownership indicates the number of savings group members with formal banking accounts.

4.7 ECONOMETRIC APPROACHES

Various scholars have used various econometric approaches to study the linkages between savings groups and formal banking institutions. Factors such as the strengths and weaknesses of the econometric approaches and the type of data used determine the type of econometric approaches used by various scholars. For example, Nakato (2021) used a Difference in Difference (DiD) estimation to investigate the impact of financial linkages on the savings groups' performance. Studies have used different measures to examine access to formal finance by savings groups; different measures, such as savings groups' composition and status, performance and bank-specific factors affecting linkages, have been used.

According to Goodman–Bacon (2021) and Wang, Hamad and White (2024), the difference in difference estimation strategy is a quasi-experimental strategy used to determine the cause-and-effect relationship in control and treatment groups. Thus,

DiD is mainly used in experimental studies. Goodman-Bacon (2021) dates back the use of DiD to a study by Snow (1855) where the outbreak of Cholera in London was analysed. This implies that it is one of the oldest estimation strategies for experimental studies. Goodman – Bacon (2021) and Wang et al. (2024) opine that for the DiD estimation strategy to hold, there should be two groups, namely the control and treatment groups and a scenario of before treatment and after treatment. In this study, the researcher does not use the DiD estimation strategy because the study is not an experimental study. The study uses- cross-sectional design where there are no randomized control trials for savings groups in the study. Another reason why this study prefers Ordinary Least Squares to the DiD strategy is that, according to Goodman-Bacon (2021) and Wang et al. (2024), the DiD strategy has a weakness of biased estimations when there is variation of treatments over time. Goodman- Bacon (2021) opines that DiD compares variations of outcomes over a period of time between control and treatment groups. This study cannot employ DiD because cross-sectional data, which measures effects at a point in time, is used, and therefore OLS is a better estimation strategy for this study than the DiD strategy.

In a related study on financial education and financial behaviour using a sample of 2364 savings groups in 9 African countries, Nakato (2021) employed a Matching Estimation strategy. Savings group members who did not receive financial education were the control units, and members who received financial education were the treatment units. According to Stuart (2010), cited in Pingel (2018), a matching estimation strategy comes from the class of average treatment effects in observational studies with the goal of balancing the distribution of covariates in a treatment and control group. Calendo and Kopeing (2008), cited in Nakato (2021) and McKenzie (2021), opine that matching estimation is applicable in situations where one has treatment units and control units. In this study, matching estimation is not feasible given that this study is not an experimental study (does not have treatment and control units) and uses cross-sectional savings groups data. This makes OLS more applicable than matching estimation in this study. This supports Zulfikar (2018), who opines that OLS squares are feasible when using cross-sectional data.

Another estimation model that was used by a related study (Amin, Yasin and Ziarko, 2022) on assessment of the role of ethnic and religious diversity in financial inclusion using 187 countries across the world is a panel data regression estimation strategy.

Evans (2025) opines that the panel data regression estimation strategy uses the combination of time series and cross-sectional data to inform a comprehensive analysis. The author reports that the panel data regression estimation strategy addresses unobserved heterogeneity by applying random effects and fixed effects models. This study preferred OLS regression to panel data regression estimation strategy because this study uses cross-sectional data instead of panel data.

This study used the Ordinary Least Squares regression technique. The following section focuses on OLS and the justification for the use of OLS.

The study employed the Ordinary Least Squares regression model using cross-sectional data. There are six (6) OLS cross-sectional data estimation models focusing on the impact of status and composition of savings groups on access to formal banking, the impact of financial performance of savings groups on access to formal banking and the impact of bank-specific factors on access to formal banking. The study divided the relationship between savings groups and formal banking into savings and credit linkages. The study sought to examine the impact of savings group composition and status, performance and bank-specific factors on access to formal banking by savings groups using the OLS regression as an estimation strategy. Khalaf (2022) notes that the disadvantage of OLS regression is that it is sensitive to the outliers. The author opines that OLS regression is sensitive to the data points which differ significantly from other observations in the data set. Extreme values may affect the model, leading to misleading results. On the hand Majka (2024) and Agarwal and Ranganathan (2017) observe that OLS regression assumes a linear relationship between the explained and explanatory variables. The authors report that OLS does not capture non-linear relationships. Agarwal and Ranganathan (2017) reveal that multicollinearity occurs when two independent variables are highly correlated, which makes it difficult to determine the individual impact of an independent variable on the dependent variable. Khalaf (2022) notes that lack of constant variances across all the levels of independent variables makes OLS to be inefficient. Aggarwal and Ranganathan (2017) highlight that when there are too many variables in relation to the observations, there is a problem of overfitting data. The authors note that overfitting values reduces the predictability accuracy of the data.

Despite the pitfalls of OLS regression, OLS regression analysis was used because of its flexibility (McKenzie, 2021), that is, it is able to handle various types of data such as discrete, continuous and ordinal data (Peprah and Mensah, 2017). OLS has the advantage of scalability in that it is able to handle big data and efficiency, and it gives unbiased estimates when the assumptions are satisfied (Peprah and Mensah, 2017). Annah et al. (2016a), Peprah and Mensah (2017), and Okwuashi and Eyoh (2012b) argue that OLS helps in minimising the sum of squares variations between predicted values of an explanatory variable and observed values. Zulfikar (2018) opines that parameter estimation, where cross-sectional data is used, is done by the OLS method. According to Gujarati (2004), to use OLS regression as a proper cross-sectional data estimation model, the following OLS regression assumptions should hold;

- There should be homoskedasticity in the standard deviations of variables.
- There should be no multicollinearity among the independent variables.
- There should be no serial correlation.

Burlando et al. (2020) and Nakato (2021) used Randomised Control Trials (RCTs), where there were treatment savings groups and control savings groups using panel data. This differs from this study, which uses cross-sectional data drawn from 36 SSA countries.

Nakato (2021) conducted a study on the impact of savings group-formal banking linkages (both savings and credit linkages) in Uganda. The difference in difference estimation model was used. The study was experimental in nature, in that there were treatment groups (the group which were linked to formal banking) and control groups (the groups which were not linked to formal banking). This study departs from Nakato (2021) in that it evaluates the impact of savings group performance on access to formal banking by savings groups in 36 SSA countries. Nakato (2021) also used qualitative analysis using the information from the focus group discussions to support evidence from quantitative analysis on savings groups – formal banking linkages. This study departs from Nakato (2021) and Burlando et al. (2020) by not only using saving group performance indicators such as average savings per member, return on savings and fund utilisation rate, but also including control variables such as GDP per Capita (a measure of the state of the economy), bank concentration, deposit interest rates and domestic credit from the commercial banks (as a percentage of GDP).

Furthermore, Burlando and Canidio (2017) used the Ordinary Least Squares in their investigation on the extent to which group inclusion hurts financial inclusion using evidence from the ultra-poor group members of savings groups in Uganda. However, this study departs from Burlando and Canidio (2017) by focusing on a cross-sectional approach, unlike Burlando and Canidio (2017), who conducted RCT (experiments) where treatment savings groups and control savings groups were used.

Amin, Yasin and Ziarko (2022) assessed the role of ethnic and religious diversity in financial inclusion using 187 countries across the world. The authors used both cross-sectional and panel data regressions. Ethnic and religious diversity form one of the aspects which define the composition of savings groups (as used in Nayarangand Shagishan, 2021). This study departs from Amin et al. (2022) by using (only) OLS regression to evaluate the impact of savings group composition and status on access to formal banking using cross-sectional data for 36 developing SSA countries.

Despite the various pitfalls of OLS regression the study chooses OLS regressions for the following reasons:

- The problem of overfitting variables was overcome by having more observations than independent variables. Since the study deals with 36 SSA countries, on average the observations were 36 against an average of 6 independent variables per each model. Therefore, there is no situation in which the observations are less than the number of independent variables and this overcomes the problem of overfitting values. Highly correlated variables were removed from the OLS regression models in order to deal with overfitting variables.
- The researcher inspected the data in order to correct data entry errors and this help to correct the problem of outliers in the dataset due to errors in capturing data.
- Diagnostic tests were conducted to detect heteroskedasticity, multicollinearity and serial correlation and the results indicated that there was no violation of those assumptions.
- Independent variables that were highly correlated were removed from the model in order to deal with the problem of multicollinearity.

- Binary regressions (probit and logit regression) are not suitable for the model because there were no binary variables and continuous data was used.
- Difference in Difference approach was not used because the study did not use an experimental research design.
- Tobit regression is not suitable for the study because the study did not use censored data. The data did not fall within a certain range. Tobit regression has a problem that once homoskedasticity and normality are violated, inconsistent results can be given.

4.8 HANDLING THE CHALLENGE OF MISSING DATA

This study faced challenges of missing data from certain countries in SSA on some of the variables used. The problem with failure to handle missing data is that it reduces the sample size and may compromise the estimations and the findings of the study. This study solved the problem of missing data by using mean imputation method. This was done by calculating the mean for a variable based on the countries with available data for that particular variance. The mean was then used to replace cases with missing data for that particular variable. The advantages of mean imputation are that it preserves the sample size and mean. The disadvantages of mean imputation are that it is affected by outliers, concentrates data around the mean, change the shape of the original distribution and weakness the correlations between the variables affected by imputation and other variables. However, despite the disadvantages of mean imputation, the following are the reasons why the study used mean imputation to handle missing data:

- Mean imputation maintained the cross-sectional nature of data. This is because the means were calculated for the variables across the countries that had observed data for the same period (latest 31 July 2024). This ensured that the study was carried out at a certain point in time (31 July 2024).
- The study did not use pairwise deletion as a method of handling missing data because pairwise method computes estimated based on the available pairs. Pairwise method does not drop the whole row. This may result in serious analytical problems.

- The study did not use listwise deletion because it drops cases with missing data. This reduces the number of observations and the estimation power of the OLS regression.
- The study did not use imputation using last observed data. The use of last observed data to handle missing data treats the data as if it was currently observed. This leads to distortions in correlations, standard deviations and means, compromising the conclusions. The data lose its cross-sectional nature as past data is carried forward. This leads to violation of conducting a study at a certain point in time. The study did not use last observed to handle missing data with the view of preserving the cross-sectional nature of the data.

4.8 CONCLUSION

This chapter focuses on the review of methodological approaches. Measures of savings group composition and status, performance, bank-specific factors and access to formal banking were reviewed. The Justification for OLS as the estimation strategy adopted in this study was done. The chapter also compares the estimation techniques, as profoundly articulated in the literature.

CHAPTER FIVE

RESEARCH METHODOLOGY

5.1 INTRODUCTION

The study is primarily aimed at evaluating the nexus between savings groups and formal banking in SSA. To realise the primary and secondary objectives of this study, this study focuses on the impact of the composition and status of savings groups, financial performance of the savings groups and bank-specific factors on access to formal banking by savings group members in SSA. The literature review initiated this investigation. This chapter focuses on the research procedure that was undertaken to collect and analyse the data to realise the study's objectives. The study follows a formal research procedure.

5.2 RESEARCH DESIGN

According to Creswell (2009), a research design are procedures and plans for research that extend the decisions from broad assumptions to detailed methods of collecting and analysing data. On the other hand, Khanday and Khanam (2019) opine that a research design is a blueprint of conducting research. The authors further argue that a research design is a procedural plan that is used by the researcher to answer questions in a way that is valid. Creswell (2009) and Khanday and Khanam (2019) opine that research design can be qualitative, quantitative and mixed.

The study adopted a quantitative research design to evaluate savings groups – formal banking in SSA economies. Quantitative research helped in measuring the impact of the indicators for savings groups' composition and status, savings group performance and banking-specific factors on access to formal banking by the savings groups in SSA countries. The quantitative approach using the Ordinary Least Square regression analysis was able to specify the nature of the effect and whether the impact was insignificant or not. Cross-sectional data as at 31 July 2024 was used and gathered from sources such as SAVIX database, IMF, World Development Indicators and Trading Economies. The choice of the database was informed by the fact that they provide data which is representative of every country, their credibility in getting national

aggregates and averages and hence allowed the evaluation of savings groups - formal banking linkages.

The use of cross-sectional data departed from related studies such as Nakato (2021), Burlando et al. (2020), and Burlando and Canidio (2017), who mainly used panel data, which consisted of Randomised Control Trials (where they had access to savings group data from both control and treatment groups) for a certain period in time. This is a departure from experimental designs, which were adopted by Nakato (2021), Burlando et al. (2020), and Burlando and Canidio (2017). The other studies used savings group data only as a proxy for financial access, such as savings groups' bank balance (savings linkage) and external debt (as a proxy for credit linkage).

However, this study used financial inclusion indicators such as account ownership and borrowers from commercial banks as measures for savings and credit linkages, respectively. Financial inclusion indicators, such as account ownership and borrowers from commercial banks, indicate the status of financial access by people in a particular country. However, bank balance and external debt as indicators of linkage only apply to the savings group members who are linked to formal banking. They do not cater for those savings groups and people who do not have access to formal banking. Therefore, the study departed from Nakato (2021) and Burlando et al. (2020) by using financial inclusion indicators as a measure of access. The problem with experimental studies such as the Randomised Control Trial is that those being studied might change their behaviour when they notice that they are being observed. This creates bias in the study. Nakato (2021) also used external debt as a credit linkage. However, from the external debt, it remains unknown the proportion of the external debt that was a bank loan accessed by the group or whether there is a certain component of external debt that was not a bank loan.

5.3 DATA COLLECTION

Secondary data (Cross-sectional data) from various sources were used in the study. This was because the study used a sample of 36 SSA countries, and it could have been challenging to use primary data for many countries. Secondary data was readily available in databases namely SAVIX, Trading Economies, World Development Indicators and IMF databases. Secondary data was from credible and reliable databases such as IMF, SAVIX, Trading Economies and World Development

Indicators. It could have been costly and time-consuming to collect primary data from 36 SSA countries. The researcher, through the collection of primary data, could have faced challenges such as international travelling restrictions, wars and language barriers. In order to curb these challenges, secondary data for 36 SSA countries was used because it was readily available in credible databases.

The study used cross-sectional savings group data gathered from the Savings Groups Information Exchange dashboard (SAVIX dashboard) (this was the latest data set covering thirty-six (36) economies in Sub-Saharan Africa as of July 2024). The savings groups data gathered from the SAVIX database were national aggregates and averages latest on the SAVIX website as of July 2024 for thirty-six (36) namely: Rwanda, Madagascar, Burundi, Mauritania, Ethiopia, Kenya, Zambia, Tanzania, Malawi, Ghana, Uganda, Niger, Nigeria, Sierra Leone, Senegal, Mozambique, Guinea, Guinea Bissau, Cameroon, Togo, Swaziland, Lesotho, Zimbabwe, Cote d'Ivoire, Angola, Burkina Faso, Sudan, South Sudan, Democratic Republic of Congo, Chad, Mali, Central Africa Republic, Liberia, Somalia, Benin and Gambia.

The national averages and aggregates for savings groups data for 36 SSA countries were the latest datasets as of 31 July 2024 based on indicators of savings groups composition, status, performance and bank-specific factors namely average number of savings group members, percentage of men, percentage of women, average annualized savings per member, savings groups outstanding loan size, return on savings, return on assets, fund utilization rate, total value of loan outstanding per group and percentage of members with loan outstanding.

International Monetary Fund (IMF) database, Trading Economics, World Bank Development Indicators database and Global Findex database provided the latest data as of 31 July 2024 on financial inclusion metrics such as account ownership, ATM per 1000 square kilometres, ATM per 100000 adults, bank concentration, domestic credit from the financial sector (percentage of GDP), interest rates earned from the deposits, lending interest rate, usage of mobile money and macro-economic variables such as inflation rate and Real GDP for each of the 36 countries in SSA.

5.4 DIAGNOSTIC TESTS

Diagnostic tests were conducted to ensure that the assumptions of the Ordinary Least Square (OLS) Regression were satisfied. Tests were conducted for homoskedasticity, serial correlation and multicollinearity. The following sections explain how individual diagnostic tests were conducted.

5.4.1 Heteroskedasticity Test

The test for each of the six OLS regression analysis was done to determine whether there was homoskedasticity in the regression model. Beuch Pagan Godfrey test for each of the six (6) OLS regression models on the impact of savings group composition and status, or group performance, or bank-specific factors on access to formal savings or credit by the savings groups was conducted based on the following hypothesis:

H0: The variances are constant for the impact of savings groups' composition and status, or group performance or bank-specific factors on access to formal savings or credit by the savings groups.

H1: The variances are not constant for the impact of savings groups' composition and status, or group performance or bank-specific factors on access to formal savings or credit by the savings groups in SSA countries.

The Beuch Pagan Test results were above 0.05, meaning that there was homoskedasticity in each of the six OLS regression analysis models.

5.4.2 Serial Correlation Test

Durbin-Watson test was conducted for all six OLS regression models to test for serial correlation. All six regression analysis models had Durbin-Watson alpha of between 1.5 and 2.5, meaning that there was no problem of serial correlation in the models.

5.4.3 Multi-collinearity Test

A test for all six OLS regression models was conducted to determine multicollinearity among the independent variables. The independent variables that were found to be highly correlated or having Variance Inflation Factors of more than 10 were removed from the model. The independent variables for all six OLS regression models had Variance Inflation Factors (VIF) less than 10, showing the absence of multicollinearity.

5.4.4 Probability (F-Statistic) Value

The probability (F- statistic) value shows the extent to which a regression model provides a better fit for the data than a model that contains no independent variables. At 5% level of significance, the p- value of the F- statistic should be less than 0.05 and 10% level of significance the p- value of the F- statistic should be less than 0.1 so that a regression model provides a better fit for the data than a model that contains no independent variables.

P- Value for F- statistic which is less than the significance level that there is enough evidence to conclude that the regression model fits the data better than a model without independent variables. In this study, the p- values for the F- statistic were below the threshold, implying that regression models provided a better fit for the data than models that contained no independent variables.

5.4.5 Omitted Variable Test: Ramsey RESET Test

The omitted variable test was conducted to check if there were omitted variable in the OLS regression model. Ramsey RESET test was conducted.

Null Hypothesis: There are no omitted variables and the model is properly specified.

Alternative Hypothesis: There are omitted variables and the model is mis specified.

If the p – value of the Ramsey RESET test was less than 0.05, the null hypothesis was rejected. This implied that the model might not be specified correctly or there are non-linear relationships in the model or the important variables were not included in the model.

5.5 OLS REGRESSION ANALYSIS MODEL SPECIFICATION

This section focuses on the OLS regression analysis models that were used to evaluate savings groups and formal banking in SSA economies.

5.5.1 Impact of Status and Composition of Savings Groups on Access to Formal Banking Services by Savings Groups

The study adopted an Ordinary Least Squares (OLS) model to determine the impact of the status and composition of savings groups on access to formal banking services by savings groups.

Model 1: Savings Linkage: Impact of savings group status and composition on access to formal savings by the savings groups.

This study examined the impact of bank-specific characteristics on access to formal savings by savings groups. Below is the first OLS regression analysis performed.

$$\begin{aligned}
ACCOWN = & \alpha + \beta_1(FEMAL) + \beta_2(AVMEMB) + \beta_3(AVLNOPG) + \beta_4(MLNOUT) \\
& + \beta_5(AVSAVPERM) + \beta_6(GDP) + \beta_7(INFL) + \beta_8(MMACC) \\
& + \beta_9(BANKCONC) + \beta_{10}(BBRANCH) + \beta_{11}(DRATE) + \beta_{12}(LR) \\
& + \beta_{13}(DCREDIT) + \beta_{14}(ATM) + \beta_{15}(BORRC) \\
& + \varepsilon \dots \dots \dots \text{Equation 1}
\end{aligned}$$

Table 5.1, below explain the abbreviations of the variables used in the first OLS regression analysis performed.

Table 5.1 Explanation of Abbreviations for Variables for the impact of group composition and status on access to formal savings

ABBREVIATION	EXPLANATION OF THE VARIABLES
ACCOWN	Account Ownership (% 15 years +)
FEMAL	Percentage of female members per group
AVMEMB	Average number of members per group
AVLNOPG	Average loan outstanding per group
MLNOUT	Percentage of members with loans outstanding
AVSAVPERM	Average savings per member
GDP	Gross Domestic Product per capita
INFL	Inflation rate
MMACC	Mobile money account ownership (% 15 years +)
MPSEND	Mobile phone used to send money (% 15 years +)
BANKCONC	Bank concentration
BBRANCH	Number of bank branches per 100, 000 adults
DRATE	Deposit interest rate
LR	Lending interest rates
DCREDIT	Domestic credit from the financial sector (% GDP)

ATM	Number of ATMs per 100, 000 adults
BORRC	Number of borrowers from the commercial banks per 1000 adults.

Source: Author Compilation

Source: Author Compilation

❖ **Dependent Variable**

The dependent variable is bank account ownership (%15 years +). This is the measure of the account ownership. It shows the percentage of adult population who own a bank account. This is an indicator of access to formal banking by people. However, the study conducted by Nguyen (2021) on measuring financial inclusion: a composite FI index for developing countries used a bank account per 1000 adults as a measure of access to formal banking. Sarma (2016) measured financial access using the number of deposit accounts with commercial banks, credit unions and credit co-operatives per 1000 adults. Sarma (2016) also highlighted that financial access can be measured using the number of mobile money accounts by noting the growing usage of mobile money in developing countries. Bank account per 1000 adults shows the state of account ownership in an entire country. This is a departure from Nakato (2021), who used bank balance to indicate linkage to formal banking. Bank account ownership reflects the extent to which people access formal savings. There has been a prevalence of usage of mobile money in Africa as a result of high mobile phone penetration (GSMA, 2015). Therefore, the account ownership (% 15 years +) cannot be ignored as a form of financial access indicator.

SEEP Network (2018) and CARE (2017) report the importance of mobile money in linking savings groups to formal banking. They indicate the role being played by Equity Bank in using its mobile money platform (Equitel) in Kenya to improve financial inclusion. Eckholf, Kibombo, Natukunda, Pennoti, and Vandergaag (2019) also report the partnership among banks (Equity Bank in Kenya, Kenya Commercial Bank, National Microfinance Bank in Tanzania and Access Bank in Tanzania), NGOs (e.g., CARE) and mobile money operators to create a savings group-formal banking linkage program, such as the LINKUP program. This shows how mobile money account

ownership has gained prominence as an indicator of financial inclusion among people in Africa. However, in this study mobile money account ownership is not used as a dependant variable because whilst mobile money account ownership indicates access to formal banking, it does not replace bank account ownership as the indicator for access to formal finance. This is because mobile money services have more of a complimentary role to formal banking institutions than substitutes. This is consistence to studies such as Eckholf et al. (2019) who report the role of mobile money in enable savings group to access formal banking through partnerships of NGOs, mobile money operators and formal banking institutions.

❖ **Independent Variable**

The explanatory variables for the model are the percentage of female members per group (as a measure of group composition), average number of members per group, average loan outstanding per group (measure of group status) and percentage of members with loans outstanding (as measures of group status). The percentage of female members per group is a measure of the gender dynamics of the group and, therefore, it is a measure of group composition. It shows the proportion of female members per group and hence highlights gender participation in savings groups. Studies such as Nakato (2021) and Mersland et al. (2019) also opine that the percentage of female members in the group is reflection of gender dynamics in the group. Average loan outstanding per group shows the total amount of money that has been given to members as loans (Nakato, 2021). Therefore, it is the reflection of the demand for loan in the group. It also shows the internal lending status and capacity of the group. The percentage of members with outstanding loans in the group gives a reflection on the size and status of the group loan book, and this has implications on group liquidity and the ability to collect loan repayments.

❖ **Control Variables**

Average savings per member were used as a control variable. Average savings per member is the reflection of group performance. Besides group composition and status, group performance affects the extent to which the savings group can access formal savings (Burlando et al., 2021; Nakato, 2021). Average savings per member show the extent to which savings groups can accumulate funds to have loanable funds (Burlando and Canidio). Average savings per member indicates group liquidity and

also the willingness of group members to maintain regular contributions. Average savings per member were measured using the total amount of savings divided by the number of members in the group. This is in line with Frolich and Nguyen (2020) and Burlando et al. (2020). However, on the other hand, Mersland et al. (2019) measured the average savings per member as a total of group savings divided by the number of active group members. This implies that the authors used the number of active members, those who are participating and active in the group. Active members show the real status of participation in savings group activities. Interest rate on deposits was also used as a control variable. Interest rate on deposits is the return that the depositors get by keeping their funds in a bank account, and hence, it can determine the willingness of people to open a bank account. Using the evidence of related studies such as Magweva and Gumbo (2014) in Zimbabwe, on the relationship between deposit interest rate and deposit mobilisation (period 2000 to 2006). Using the Ordinary Least Squares Regression analysis, the authors found a positive relationship between deposit interest rate and deposit mobilisation.

Deleke and Elumah (2018), Ubesie et al. (2017) and Mashamba et al. (2014) used interest rate on deposits as a determinant of lending by banks to small and medium-sized enterprises. GDP per capita is a measure of economic activities and can determine the ability of savings groups to raise the funds required to access formal savings. King and Levine (1992) used GDP figures as a control variable for macroeconomic conditions. Nakato (2021) reveals that macroeconomic indicators such as GDP have an impact on savings groups and hence, it might affect their access to formal savings. Branch network is also a control variable. It is measured by the number of bank branches per 100, 000 adults. Bank branch indicates bank penetration. Maudos (2017) used branch numbers as a dependent variable and independent variables consisted of population size, population density, unemployment rate, economic activities index, industry index, commerce index and tourism index. Gashayie and Singh (2016) who note skewed distribution of bank branches in Ethiopia, with the capital city, Addis Ababa accounting for 34% of the bank branches. Beck, Demirguc- Kunt and Martinez- Peria (2008) opine that government owned banking systems make it hard for bank customers to access credit services whilst the participation of foreign banks reduces barriers to deposit services. Mobile money account ownership was measured by mobile money accounts (% 15 years +).

Although mobile money account ownership is an indicator for access to formal banking, it cannot directly and completely replace bank account ownership as an indicator for access to formal banking. Mobile money has more of a complimentary role to formal banks than being a substitute. This is supported by evidence from SEEP Network (2017), Makina (2017) and GSMA (2015) note the role of mobile technology in improving access to finance by those who are in the bottom of the pyramid. This implies that mobile money has connected people to formal banking. This is supported by CARE in East Africa (2016) and SEEP Network (2016) who report the role of mobile money services in linking savings groups to formal banking. This shows the complimentary role of mobile money services to formal banking, as a stepping stone for access to formal banking by savings groups. The study also used number of ATMs per 100, 000 adults, number of borrowers from the commercial bank per 1000 adults, domestic credit from the financial sector (% GDP) and Inflation rate as a control variable for the model.

Model 2: Credit Linkage: Impact of savings group status and composition on access to formal credit by the savings groups.

This study examined the impact of bank-specific characteristics on access to formal credit by savings groups. Below is the second OLS regression analysis performed.

$$\begin{aligned}
 &BORRC \\
 &= \alpha + \beta_1(FEMAL) + \beta_2(AVLNOPG) + \beta_3(AVSAVPERM) + \beta_4(GDP) + \beta_5(INFL) \\
 &+ \beta_6(MMACC) + \beta_7(BANKCONC) + \beta_8(BBRANCH) + \beta_9(LR) + \beta_{10}(ATM) \\
 &+ \beta_{10}(DCREDIT) \\
 &+ \varepsilon \dots\dots\dots \text{equation 2}
 \end{aligned}$$

The table below explain the abbreviations of the variables used in the second OLS regression analysis performed.

Table 5.2: Explanation of Abbreviations for Variables for the impact of group composition and status on access to formal credit

ABBREVIATIONS	Explanation of Variables
BORRC	Number of borrowers from commercial banks per 1000 adults.
FEMAL	Percentage of female members per group
AVLNOGP	Average loans outstanding per group
AVSAVPERM	Average savings per member
GDP	Gross Domestic Product per capita
INFL	Inflation rate
MMACC	Mobile Money Account Ownership (% 15 years +)
BANKCONC	Bank concentration
BBRANCH	Number of bank branches per 100, 000 adults
LR	Lending interest rates
ATM	Number of ATMs per 100, 000 adults
DCREDIT	Domestic credit from the financial sector (% GDP)

Source: Author Compilation

❖ **Dependent Variable**

The dependent variable for this model is BORROWCOM, which represents borrowers from commercial banks per 1000 adults. This is a measure of credit linkage. It shows the extent to which people have access to bank credit. Related studies on financial inclusion, such as Park and Mercado (2015) and Park and Mercado (2018), used borrowers from commercial banks per 1000 adults to measure financial inclusion. Nakato (2021) used external debt data from the SAVIX database as a measure of credit linkage. However, external debt might not clearly show the percentage of the external debt, which is a loan that savings groups obtain from the bank. Borrowers from commercial banks reflect how many people per given population can borrow from the bank.

❖ **Independent variables**

The percentage of female members is used as an indicator of the gender composition of the group. This is in line with Nakato (2021), who used the percentage of female

members per group as an indicator for the gender composition of the savings groups. average loan outstanding per group was used as measure of group status. This is in line with Mersland et al. (2019). Average loan outstanding is the reflection of the lending status of the group and the borrowing capacity of the members.

❖ **Control Variables**

Average savings per member is used as a control variable. This is because average savings per member shows the extent of funds accumulation in the group, which might affect the borrowing capacity of the savings groups from commercial banks. Nakato (2021) report that the average savings per member is a measure of group performance. However, in this study, the author views average savings per member as qualifying to be an indicator for group savings status as well. Bank concentration is another control variable. This is the extent to which the banking sector is controlled by few large banks. This is the measure of competition in the banking sector. This is in line with Chauvet and Jacolin (2023) who note that when bank concentration is high, there is lack of competition in the banking sector and this discourages financial inclusion. GDP per Capita also affect the extent to which savings groups can borrow from commercial banks. This is because GDP measures the economic activity in a country and hence affects the ability of the group to be linked to formal banking (Nakato, 2021).

The lending rate has been used as a control variable. This is because lending rates are the costs of borrowing from the bank, and they determine the extent to which savings groups borrow from the banks. Domestic credit from the financial sector as a percentage of GDP is also a control variable in this study. It indicates the magnitude of credit provided by the financial sector and hence has an effect on the extent of borrowing to those at the bottom of the pyramid, such as savings groups. It is also a measure of financial development. Calderon and Liu (2003) and Jammeh (2022) used domestic credit to GDP as a measure of financial development of the financial sector. Ownership of mobile money accounts (measured by mobile money account (% 15 years +) is a control variable. Ownership of mobile money accounts enable groups to have financial history from the mobile money transactions which can be used by bank as a basis for determining the credit worthiness of savings groups. This is in agreement with SEEP Network (2016) and Vandergaag et al. (2017) who report that

mobile money is a stepping stone for savings groups to access formal banking. Lending interest rates and number of ATMs per 100, 000 adults were also used as control variables.

5.5.2 Impact of Financial Performance of Savings Groups on Access to Formal Banking Services

The study employed the OLS model to evaluate the impact of the financial performance of Savings groups on access to formal banking as follows:

Model 3: Savings Linkage: Impact of savings groups' financial performance on access to formal savings by savings groups

This study examined the impact of bank-specific characteristics on access to formal

$$\begin{aligned}
 ACCOWN = & \alpha + \beta_1(AVSAVPERM) + \beta_2(ROS) + \beta_3(GDP) + \beta_4(BBRANCH) \\
 & + \beta_5(BANKCONC) + \beta_6(BORRC) + \beta_7(MMACC) + \beta_8(MPSEND) \\
 & + \beta_9(DCREDIT) + \beta_{10}(DRATE) + \beta_{11}(ATM) + \beta_{12}(FEMAL) \\
 & + \beta_{13}(AVMEMB) + \beta_{14}(AVLNOPG) + \beta_{15}(MLNOUT) \\
 & + \varepsilon \dots \dots \dots \text{Equation 3}
 \end{aligned}$$

The following table explains the Abbreviation of variables for OLS regression analysis model is on the impact of group performance on access to formal savings by savings groups in SSA countries.

Table 5.3: Explanation of Abbreviation for Variables for the impact of group performance on access to formal savings

Abbreviations	Explanation of Abbreviations for The Variables
ACCOWN	Account ownership (% 15 years +)
AVSAVPERM	Average savings per member
ROS	Return On Savings
GDP	Gross Domestic Product Per Capita
BBRANCH	Number of bank branches per 100, 000 adults
BANKCONC	Bank concentration

BORRC	Number of borrowers from the commercial banks per 1000 adults
MMACC	Mobile Money Account ownership
MPSEND	Mobile phones used to send money (% 15 years+)
DCREDIT	Domestic credit from the financial sector (% GDP)
DRATE	Deposit interest rate
ATM	Number of ATMs per 100, 000 adults
FEMAL	Percentage of female members per group
AVMEMB	Average number of members per group
AVLNOPG	Average loan outstanding per group
MLNOUT	Percentage of members with outstanding loans

Source: Author Compilation

Dependent Variable

Account ownership (% 15 years +) represents access to finance. This is a reflection of the percentage of adult population who own a bank account. Account ownership (% 15 years +) was also used by previous studies, such as Wale and Makina (2019), as a measure of access to financial services.

❖ Independent Variables

Return on Savings (ROS) is an independent variable which measures group performance. It shows the return that the group members obtain from their savings in savings groups. Burlando and Canidio (2017), Mersland et al. (2019), and Nakato (2021) have also used ROS as a measure of group performance. Nakato (2021) opines that an increase in ROS encourages group members to save. It increases fund accumulation in the group, which affects its linkage to formal banking. Average savings per member is also a measure of group performance. It shows fund accumulation in the group as a result of members' contributions. This affects savings groups' access to bank accounts. Greaney et al. (2016) and Ledgerwood et al. (2013) highlight that saving per member is also a measure of group performance.

Control Variables

Bank concentration is a control variable for the model. This is because bank concentration affects account ownership. Bank concentration affects access to bank accounts. In a related study, Chauvet and Jacolin (2017) conducted a study on financial inclusion, bank concentration and firm performance using firm-level data drawn from a sample of 55596 firms in 79 countries. The study reveals that low levels of bank concentration (high competition among banks) improve financial inclusion. This implies that when bank concentration is very high, they will have limited access to formal banking, particularly by people of low socio-economic status, like most savings group members. Avon, Bangake and Ndoya (2021) conducted a study on bank concentration, stemming from financial inclusion in Africa. The study adopted the system's generalised method of moments and panel threshold regression method using evidence from 30 African countries. First, through the system's generalised methods of moments, the study reveals that bank concentration has a negative and significant impact on financial inclusion. Second, using panel threshold regression, the study found that bank concentration has a positive and significant impact on financial inclusion in Africa. The authors further highlight that the non-linear relationship between bank concentration and financial inclusion stems from factors such as corruption control, regulatory quality, property rights protection, mobile phone penetration and financial freedom.

GDP per capita is also used as a control variable since it is a measure of economic activity and has an impact on access to formal savings by the savings groups. Afonso and Arana (2024) conducted a study on the extent to which financial inclusion enhances per capita income in the Least Developed countries. The author used panel data of the Least Developed Countries from 1990 to 2021. They found that financial inclusion dimensions such as concentration and accessibility affect the economy more than financial inclusion dimensions such as usability and availability in LDCs. Domestic credit from the financial sector was also used as a control variable on access to bank accounts. Domestic credit from the financial sector indicates that the financial sector is providing access to credit to the various sectors of the economy. This may encourage people to open bank accounts, make formal savings, so as to create financial history and access formal credit. Chigumira and Masiyandima (2003) noted that the financial reforms in Zimbabwe improved domestic savings and access to

formal credit by Small to Medium-Sized Enterprises (SMEs). The deposit interest rate is also used as a control variable for access to bank accounts. Interest rate on deposits is the return that savings groups obtain through deposits made in their accounts in banks. This affects the willingness of group members to open bank accounts. Mashamba and Magweva (2015) found that there was a positive relationship between deposit interest rates and savings in Zimbabwe. Ownership of mobile money account and mobile phone used to send money are also control variables for the model. Ownership of mobile money account is measured by mobile money account (% 15 years +). According to GSMA (2015), mobile technology platforms such as mobile money agents, mobile banking and agency banking are providing affordable and convenient access to formal banking by rural clients. Triki and Faye (2013) report that mobile money services are mostly used in Africa, followed by Asia. Dermiguc Kunt and Klapper (2012a) observe the role of M- Pesa in Kenya in assisting people to have access to finance.

Eckhoff et al. (2019) through the evidence of a LINKUP project between 2014 and 2017 in Kenya and Tanzania report the partnership of NGOs, formal banking institutions and mobile money operators in facilitating savings groups – formal banking linkages. This implies that mobile money is the stepping stone to access to formal banking by savings groups. Mobile money services are more of partners to formal banking institutions than competitors. Therefore, they have a supportive role in ensuring that savings groups access their formal bank accounts. Bank branch network, percentage of female members per group, average number of members per group, average loan outstanding per group, percentage of members with outstanding loans and percentage of female members per group also the other control variables.

Model 4: Credit Linkage: Impact of group financial performance on access to formal credit by savings groups

This study examined the impact of bank-specific characteristics on access to formal credit by savings groups. Below is the fourth OLS regression analysis performed.

$$BORRC = \alpha + \beta_1(AVSAVPERM) + \beta_2(ROS) + \beta_3(GDP) + \beta_4(INFL) + \beta_5(BBRANCH) + \beta_6(BANKCONC) + \beta_7(ACCOWN) + \beta_8(MMACC) + \beta_9(MPSEND) + \beta_{10}(DCREDIT) + \beta_{11}(LR) + \beta_{12}(ATM) + \beta_{13}(FEMAL) + \beta_{14}(AVMEMB) + \beta_{15}(AVLNOPG) + \beta_{16}(MLNOUT) + \varepsilon \dots \dots \dots \text{equation 4}$$

The table below explains the abbreviations for the variables used in the regression analysis model for the impact of group performance on access to formal credit.

Table 5.4: Explanation of Abbreviations for Variables for the impact of group performance on access to formal credit

ABBREVIATIONS	EXPLANATION OF ABBREVIATIONS
BORRC	Number of borrowers from commercial bans per 1000 adults.
AVSAVPERM	Average savings per member
ROS	Return on Savings
GDP	Gross Domestic Product per capita
INFL	Inflation rate
BBRANCH	Number of bank branches per 100, 000 adults
BANKCONC	Bank concentration
ACCOWN	Account ownership (% 15 years +)
MMACC	Mobile money account ownership (% 15 years +)
MPSEND	Mobile phone used to send money (% 15 years +)
DCREDIT	Domestic credit from the financial sector (% GDP)
LR	Lending interest rates
ATM	Number of Automated Teller Machines per 100, 000 adults
FEMAL	Percentage of female members per group
AVMEMB	Average number of members per group
AVLNOPG	Average loan outstanding per group
MLNOUT	Percentage of members with outstanding loans

Source: Author Compilation

❖ **Dependent Variable**

The dependent variable for the model on the impact of group financial performance on access to formal credit by savings groups is the number of borrowers from commercial banks per 1000 adults. This is in line with Park and Mercado (2018), who used the number of borrowers from commercial banks per 1000 adults as a measure of financial inclusion. The number of borrowers from commercial banks show many adults per population have access to formal credit. This shows the extent to which commercial banks reach out to people for loans.

❖ **Independent Variable**

Return on Savings is used as an explanatory variable, indicating group performance. This is consistent with Ledgerwood et al. (2013), Nakato (2021) and Mersland et al. (2019). Average savings per measure is the measure of group performance. This is in line with Mersland et al. (2019) and Nakato (2021) who opine that average savings per member is a measure of the group performance.

❖ **Control Variables**

Bank concentration, GDP per capita and domestic credit from the financial sector as a percentage of GDP was used as control variables. This is because various studies such as Chauvet and Jacolin (2017), King and Levine (1992) and Jammeh (2022) have indicated that bank concentration, GDP per Capita and Domestic credit, respectively have an impact on financial inclusion (access to bank credit). Lending rates, mobile phones used to send money (% 15 years +) and ownership of mobile money account measured by mobile money accounts (% 15 years +) were also used as a control variable. Brusky (2018) report the role of mobile money services in connecting savings groups to formal banking. Account ownership, number of ATMs per 100, 000 adults, percentage of female members per group, average number of members per group, average loan outstanding per group and percentage of members without standing loans are also control variables for the model.

5.5.3 Impact of Bank-Specific Characteristics on Access to Formal Banking Services by Savings Groups

This study examined the impact of bank-specific characteristics on access to formal banking by savings groups by focusing on groups' savings (savings linkage) and credit (credit linkage).

Model 5: Impact of bank-specific factors on the savings by group members

This study examined the impact of bank-specific characteristics on savings by savings groups. Below is the fifth OLS regression analysis performed.

$$\begin{aligned}
 AVSAVPERM = & \alpha + \beta_1(MMACC) + \beta_2(MPSEND) + \beta_3(BANKCONC) + \beta_4(BBRANCH) \\
 & + \beta_5(DRATE) + \beta_6(LR) + \beta_7(DCREDIT) + \beta_8(ATM) + \beta_9(BORRC) \\
 & + \beta_{10}(FEMAL) + \beta_{11}(AVMEMB) + \beta_{12}(AVLNOUT) + \beta_{13}(MLNOUT) \\
 & + \beta_{14}(GDP) + \beta_{15}(INFL) \\
 & + \varepsilon \dots \dots \dots \text{Equation 5}
 \end{aligned}$$

The table below explain the abbreviations of the variables used in the fifth OLS regression analysis performed.

Table 5.5: Explanation of Abbreviations for Variables for the impact of bank specific factors on average savings per member

ABBREVIATIONS	EXPLANATION OF ABBREVIATIONS
AVSAVPERM	Average savings per member
MMACC	Mobile money account ownership (% 15 years +)
MPSEND	Mobile phone to send money (% 15 years +)
BANKCONC	Bank concentration
BBRANCH	Number of bank branches per 100, 000 adults
DRATE	Deposit interest rates
LR	Lending interest rates
DCREDIT	Domestic credit from the financial sector (% GDP)
ATM	Number of ATMs per 100, 000 adults
BORRC	Number of borrowers from the commercial banks per 1000 adults

FEMAL	Percentage of female members per group
AVMEMB	Average savings per member
AVLNOUT	Average loan outstanding per group
MLNOUT	Percentage of members with outstanding loans
GDP	Gross Domestic Product per capita
INFL	Inflation rate

Source: Author Compilation

The dependent variable for this model is average savings per member. It shows the ability of the group members to save in the savings groups. High average savings per member facilitate group fund accumulation and thereby influence the availability of loanable funds in the group (Burlando et al., 2020). Group fund accumulation may be a basis for savings groups to access mainstream finance.

❖ Independent variables

The deposit interest rate indicates the return depositors get by keeping their money in formal deposits or savings accounts. Ojeaga and Adejimi (2014) investigated the impact of interest rates on bank deposits with reference to the Nigerian banking sector and revealed that high interest rates increase bank deposits. Although high interest rates encourage deposits, they also discourage borrowing. Therefore, there is a need for the formal financial institutions to moderate interest rates to create a balance and promote both savings and borrowing from people of low socio-economic status, such as savings groups. This is because people of low socio-economic status base their dealings with banks on the interest rates. Therefore, formal banking institutions should come up with interest rates that facilitate both savings and borrowing by savings groups. Bank concentration is another independent variable for the model and is expected to have an impact on the average savings per member for the savings groups. Bank concentration was measured by summing up data (2024) for the three largest banks divided by the sum of data (2024) for all the banks in the sector in the Bankscope. This is in line with Ahmad and Amjad (2024), who opine that bank concentration examines the assets of the three largest commercial banks as a percentage of the total assets of the commercial banks in the sector. They used the banking data from Bankscope and Orbis. When there is less bank concentration,

financial inclusion is promoted, and this might enable savings group members to improve their savings. This is because there will be competition in the banking sector, making banking institutions willing to reach out to people. The bank branch network is measured by the number of bank branches per 100,000 adults. It indicates bank outreach.

Gashayie and Signh (2016) and Park and Merkado (2015) measured the bank branch network using commercial bank branches per 1000 square kilometres. The branch network determines the cost incurred by savings groups to travel to the nearest formal banking branch (Frolich and Nguyen, 2020). Frolich and Nguyen (2020) note that when the branch network is limited, savings groups start to be concerned about the safety of their funds being transported over a long distance. This has implications for the willingness of group members to save and link to formal banking. Ownership of mobile money account and mobile phones used to send money also highlight access to financial services by savings groups. Brusky (2018), CARE in East Africa (2016) and Eckholf et al. (2019) report that mobile money has a role in connecting savings groups to formal banking. Ownership of mobile money accounts is an independent variable, because it is a bank specific factor that shows access to formal banking especially when bank accounts are linked to mobile money wallets. Domestic credit from the financial sector (% GDP), Number of borrowers from the commercial banks per 1000 adults, and number of ATMs per 100, 000 adults are other independent variables.

❖ **Control Variables**

GDP per capita was used as the control variable. GDP per capita determines the income of people, and therefore it affects how people save in the savings groups. Nakato (2021) used GDP figures as a control variable because GDP affects savings groups. This is also consistent with King and Levine (1992), who noted the influence of GDP figures on financial inclusion. Percentage of female members per group, average number of members per group, average loan outstanding per group, percentage of members with loans outstanding and inflation rate are other control variables.

Model 6: Impact of bank-specific factors on the access to credit by group members

This study examined the impact of bank-specific characteristics on access to credit by savings groups. Below is the sixth OLS regression analysis performed.

$$AVLSPM = \alpha + \beta_1(MMACC) + \beta_2(MPSEND) + \beta_3(BANKCONC) + \beta_5(BBRANCH) + \beta_6(ACCOWN) + \beta_7(LR) + \beta_8(DCREDIT) + \beta_7(LR) + \beta_8(ATM) + \beta_9(BORRC) + \beta_{10}(FEMAL) + \beta_{11}(AVMEMB) + \beta_{12}(GDP) + \beta_{13}(INFL) + \varepsilon \dots \dots \dots \text{equation 6}$$

Table 5.6 below shows the explanation of abbreviations for the variables used in the OLS regression model for the impact of bank specific factors on average loan size per member.

Table 5.6: Explanation of Abbreviations for the Variables for the impact of bank specific factors on average loan size per member

ABBREVIATIONS	EXPLANATION OF ABBREVIATIONS
AVLSPM	Average loan size per member
MMACC	Mobile money account ownership (% 15 years +)
MPSEND	Mobile phone used to send money (% 15 years +)
BANKCONC	Bank concentration
BBRANCH	Number of bank branches per 100, 000 adults
ACCOWN	Account ownership (% 15 years +)
LR	Lending interest rates
DCREDIT	Domestic credit from the financial sector (% GDP)
ATM	Number of ATMs per 100, 000 adults
BORRC	Number of borrowers from the commercial banks per 1000 adults
FEMAL	Percentage of female members per group
AVMEMB	Average number of members per group
MLNOUT	Percentage of members with outstanding loans
AVSAVPERM	Average savings per member

GDP	Gross Domestic Product per capita
INFL	Inflation rate

Source: Author Compilation

❖ **Dependent Variable**

The average loan size per member was used as a dependent variable. The average loan size per member shows the loan size that each member in a group is likely to get. Burlando et al. (2020) note that in savings groups with high-income people, there are higher savings and higher fund accumulation and this increases loanable funds due to the increase in loan sizes per member. Loan size per member is also a measure of the extent to which savings groups can satisfy loan demands from their members.

❖ **Independent Variables**

The Bank branch network is measured by the number of bank branches per 100,000 adults. Commercial bank branches per 1000 square kilometres were used to measure the branch network by Dermiguc–Kunt et al. (2014), Gashiye and Singh (2016) and Park and Mercado (2015). The branch network determines the proximity of financial services to the savings groups. Therefore, the branch network determines the extent to which savings groups can access formal loans. Frolich and Nguyen (2020) highlight that savings groups' decision to link to formal banking in Zambia is determined by the distance they travel to the nearest bank branch, as this has implications on transport costs and the safety of funds carried.

Mobile money accounts (% age 15+) and mobile phones used to send money (% 15 years +) were also used as an independent variable. This determines the extent to which savings groups access formal credit. The world has seen the use of mobile phones (mobile money and mobile banking) to break physical barriers to accessing formal banking (GSMA, 2015; SEEP Network, 2017). This is in agreement with GSMA (2015), Makina (2017) and SEEP Network (2017), who highlight the importance of mobile technology in improving access to finance by those who are at the bottom of the pyramid. Eckholf, Kibombo, Natukunda, Pennoti and Vandergaag (2019) also highlight the role of mobile money services in linking savings groups to formal banking and facilitating access to formal credit through the LINKUP programme in Kenya and Tanzania between 2014 and 2017. Account ownership (% 15 years +) is also an independent variable to indicate account ownership. Account ownership determines

access to credit. Wale and Makina (2019) also use account ownership (% 15 years +) to indicate account ownership. Domestic credit from the financial sector (% GDP) was also used as an independent variable. Chauvet and Jacolin (2017), King and Levine (1992) and Jammeh (2022) have indicated domestic credit, has an impact on financial inclusion (access to bank credit). Bank concentration was also used as an independent variable. This is because bank concentration determines the competition in the banking sector. Number of borrowers per 1000 adults, number of ATMs per 100, 000 adults and lending interest rates were also used as independent variables in the model.

❖ **Control variables**

This study used inflation rate as a control variable. Nakato (2021) alludes to the impact of macro- economic factors such as GDP and inflation on savings groups. GDP per capita indicates the state of the economy and influences loanable funds and loan size per member in the savings groups. Inflation rates affect the value and the purchasing power of the groups' savings in the cashbox or in the bank account. Percentage of female members per group, average number of members per group, percentage of members with outstanding loans and average savings per member are also control variables.

5.6 CONCLUSION

This chapter made a justification for the use of a quantitative research design, as the method helps to reveal the relationships among the variables and their causality. The data collection process through the use of secondary data from SAVIX database, Global Findex, trading economies, World Bank Indicators database and IMF data was detailed. This chapter also detailed the various diagnostic tests, such as serial correlation, heteroskedasticity and multicollinearity. Consistent with the literature, this chapter presents the OLS regression analyses that were performed and explains all the dependent and independent variables adopted.

CHAPTER SIX

PRESENTATION OF THE FINDINGS AND ANALYSIS

6.1 INTRODUCTION

The previous chapter focused on the methodological approach that was adopted to collect and analyse the research data. This chapter focuses on the presentation of the research results and analysis. The chapter starts with the description of savings groups' characteristics across the selected 36 developing nations in SSA. The chapter proceeds with a correlation analysis of savings group attributes, financial access metrics and bank-specific factors for the selected 36 SSA countries. The chapter then conducts descriptive statistics for savings groups, financial access metrics and bank-specific factors using mean, maximum value, minimum value and standard deviation. The study further tests for assumptions of the Ordinary Least Squares Regression analysis, such as Heteroskedasticity, Multi-collinearity and Serial correlation test and performs OLS regression models in line with the research objectives.

To recap, the empirical objectives, the research questions and hypotheses adopted for this study are summarised below:

The empirical objectives include:

- 1) To evaluate the impact of composition and status of savings groups on access to formal banking by savings group members in SSA.
- 2) To assess the impact of the financial performance of savings groups on access to formal banking by savings group members in SSA.
- 3) To determine the impact of bank-specific factors on access to formal banking by savings group members in SSA countries. The general view here is that the manner in which bank-specific factors affect savings groups in terms of loans and savings would determine the groups and members' ability to access formal banking.

The research questions include:

- 1) What is the impact of the composition and status of savings groups on access to formal banking by savings group members in SSA?
- 2) How does the financial performance of the savings groups affect access to formal banking by savings group members in SSA?
- 3) What is the impact of bank-specific factors on the access to formal banking by savings group members in SSA?

The following hypotheses were formulated:

Hypothesis 1: Composition and status of savings groups have a significant impact on access to formal banking by group members.

Hypothesis 2: Financial performance of savings groups has a significant impact on access to formal banking by group members.

Hypothesis 2: Bank-specific factors have a significant impact on access to formal banking by group members.

6.2 GENERAL CHARACTERISTICS OF SAVINGS GROUPS IN DEVELOPING SSA COUNTRIES

The study describes the characteristics of savings groups based on the average number of members per group, average savings per member, average loan size per member, percentage of female members per group, Return on Savings, Return on Assets and Fund Utilisation Rate.

Figure 6.1 indicates the average number of members per group. For all the figures for the average number of members per group (Figure 6.1), first, the inference discussion is based on the 18 selected SSA countries that are visible in the chart. For clean charts, all 36 countries could not be labelled and hence only 18 countries were labelled. Secondly, the overall inference is based on the 36 SSA countries.

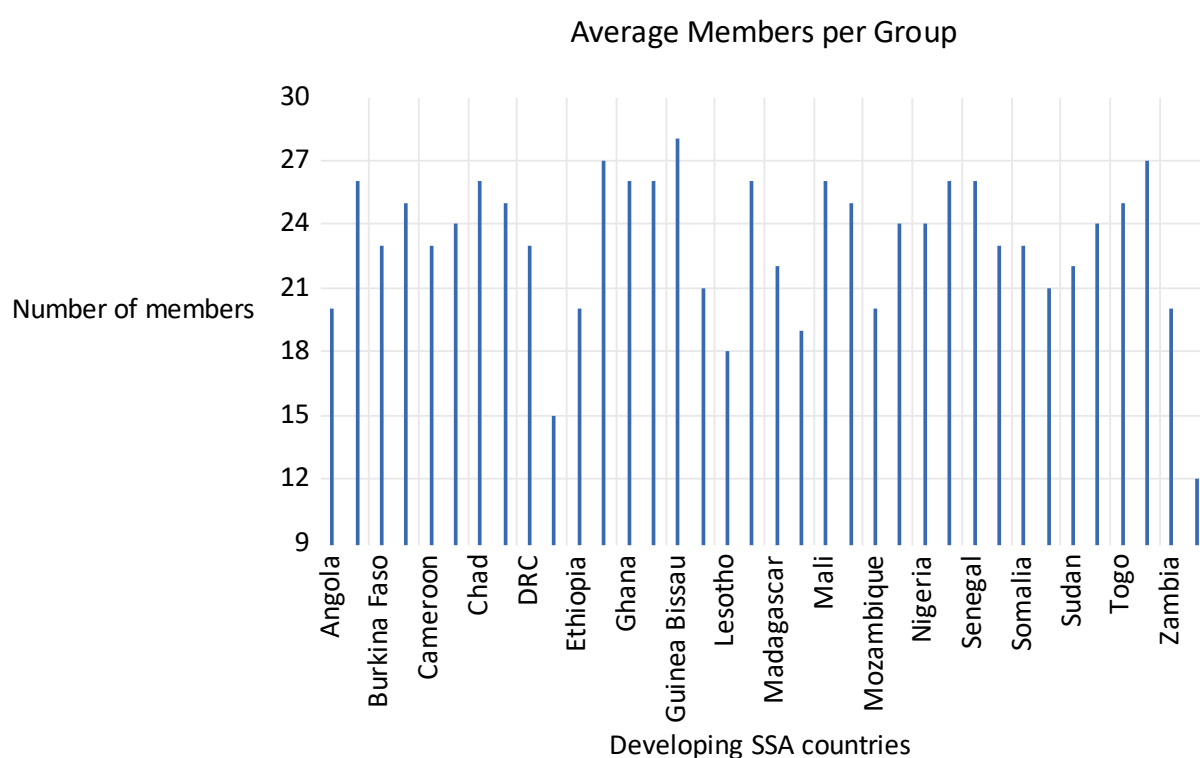
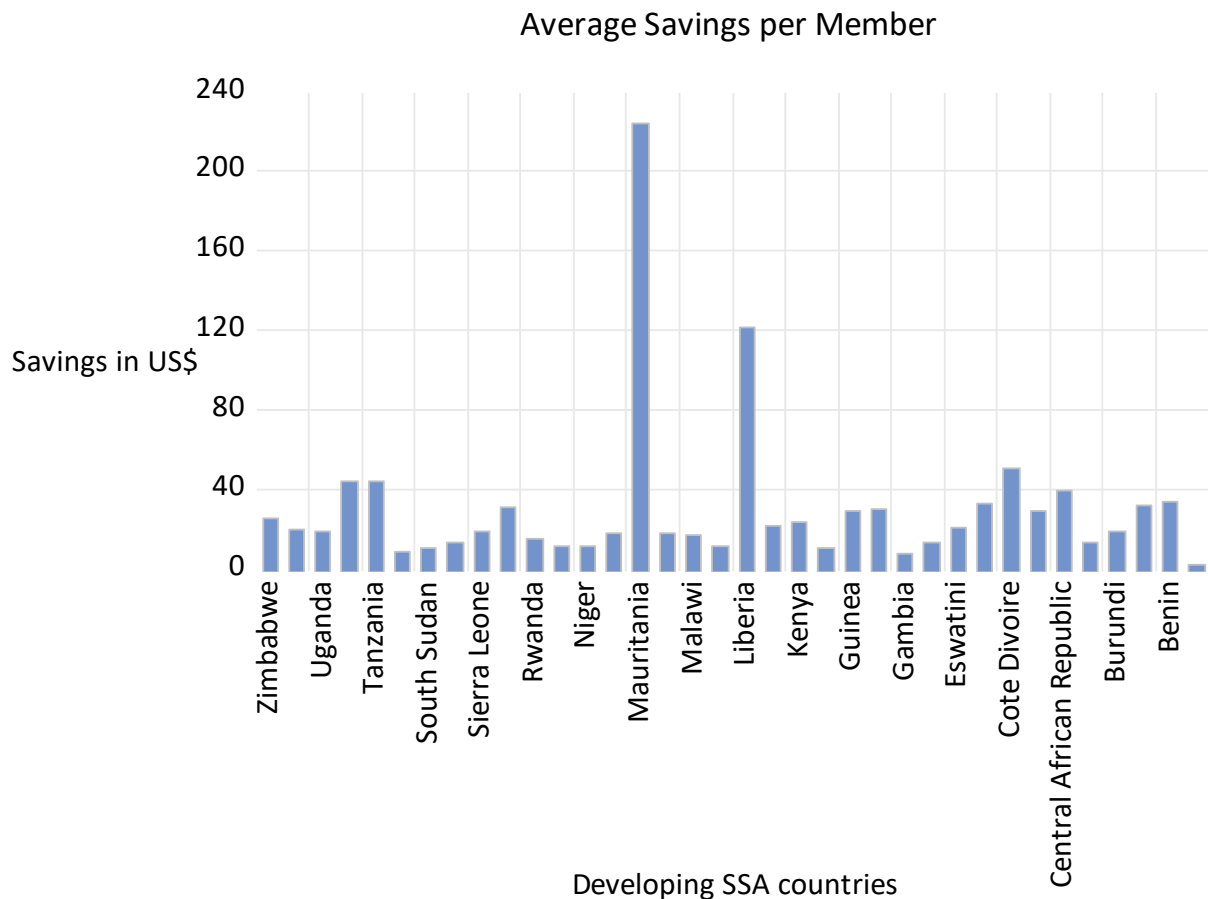


Figure 6.1: Average number of members per savings group for selected SSA countries

Source: Author Compilation

In general, 18 out of the selected 36 developing countries of SSA have an average membership per group ranging from 12 members to 28 members per group, as shown in Figure 6.1 above. Guinea-Bissau has the highest average members per group (28 members). Most of the countries in SSA have membership which exceeds 20 members per group but less than 28 members per group. The savings group membership in SSA economies is consistent with the views of SEEP Network (2018). They supported that savings group memberships vary between 15 and 30 members. According to the statistics from SAVIX, the average number of group members in other regions is: 22, 21, 20, 21 and 18 for global, Africa, Asia, America and Europe, respectively.

Figure 6.2 below indicates average savings per member for SSA countries. For clean charts, all 36 countries could not be labelled and hence only 18 countries were labelled. Secondly, the overall inference is based on the 36 SSA countries



Source: Author Compilation

Figure 6.2: Average Savings per Member for Selected SSA Countries

Per Figure 6.2, among the 18 SSA countries, Mauritania has the highest average savings per member of US\$225. Liberia is the second-highest country with an average savings per member of US\$120. All the other 16 SSA countries have average savings per member of less than US\$50. According to the statistics from SAVIX, on average, savings per member, the global average is US\$29, Africa US\$26, Asia US\$49, America US\$67 and Europe US\$18. This implies that the only region that exceeds Sub-Saharan Africa in terms of savings per member is America, with an average savings per member of US\$67.

Figure 6.3 below indicates the average loan size per member for selected SSA countries. For all the figures in Figure 6.3, the inference discussion is based on the 18 selected SSA countries that are visible in the chart. For clean charts, all 36 countries could not be labelled and hence only 18 countries were labelled. Secondly, the overall inference is based on the 36 SSA countries

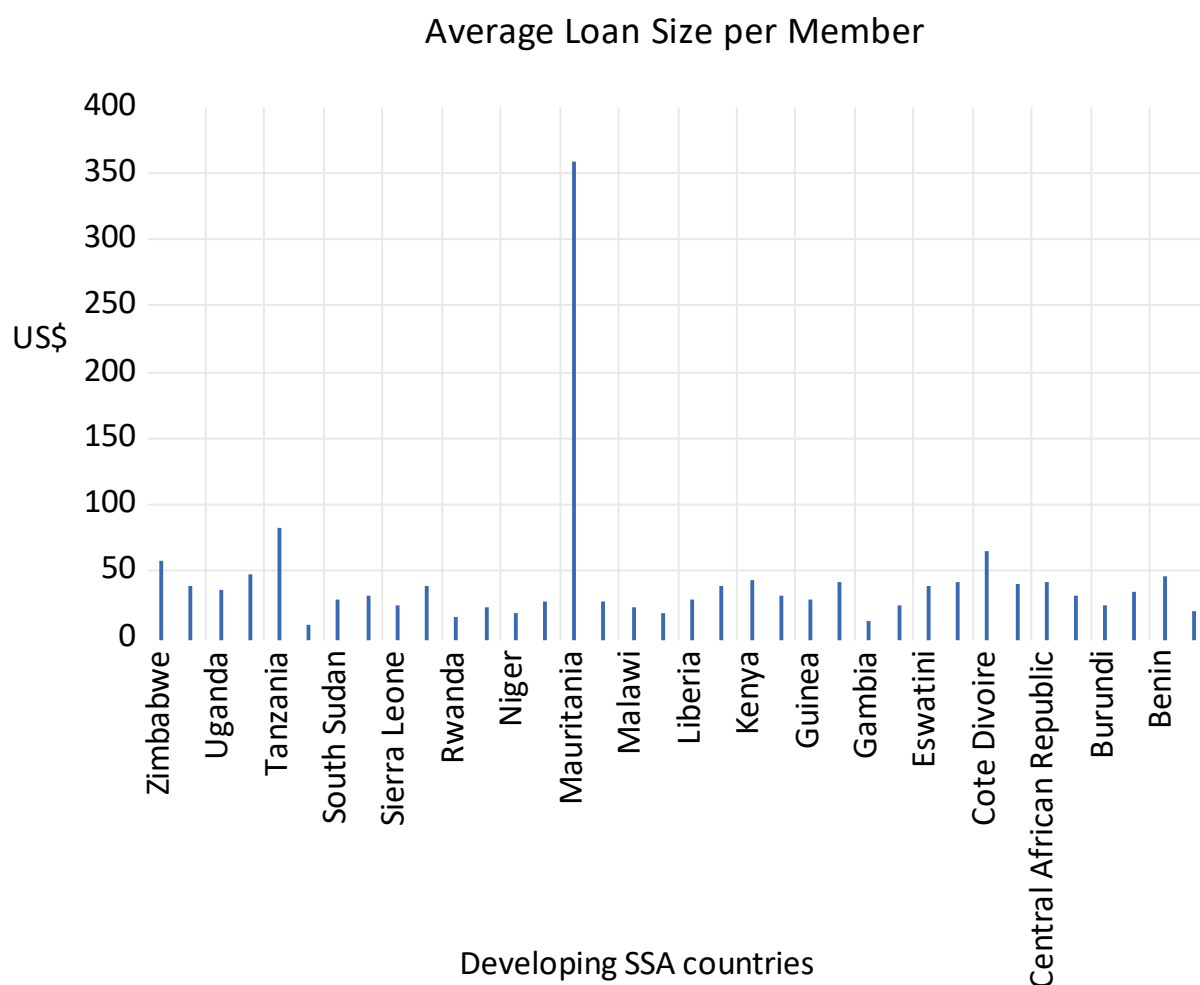


Figure 6.3: Average Loan Size per member for selected SSA countries

Source: Author Compilation

Among 18 of the selected SSA countries, Mauritania has the highest average loan size per member of US\$358 per member. This implies that the savings groups in Mauritania advance huge amounts of loans to their members, compared to the other countries. This is consistent with the fact that among the selected SSA countries, Mauritania has the highest average savings per member, which may explain high average loan sizes per member. All of the other 17 countries provide an average loan size per member which is less than US\$100. This is because of very low savings levels, as depicted in Figure 6.2. According to the statistics from the SAVIX database, the average loan size per member is US\$47, US\$42, US\$88, US\$101 and US\$309 for global, Africa, Asia, America and Europe, respectively. Savings groups in America

and Europe exceed those in developing SSA countries in terms of the average loan size per member.

Figure 6.4 indicates the gender distribution of savings group members (percentage of female members per group) in SSA countries. For all the figures for the gender distribution of members per group (percentage of female members per group), first, the inference discussion is based on the 18 selected SSA countries that are visible in the chart. For clean charts, all 36 countries could not be labelled and hence only 18 countries were labelled. Secondly, the overall inference is based on the 36 SSA countries.

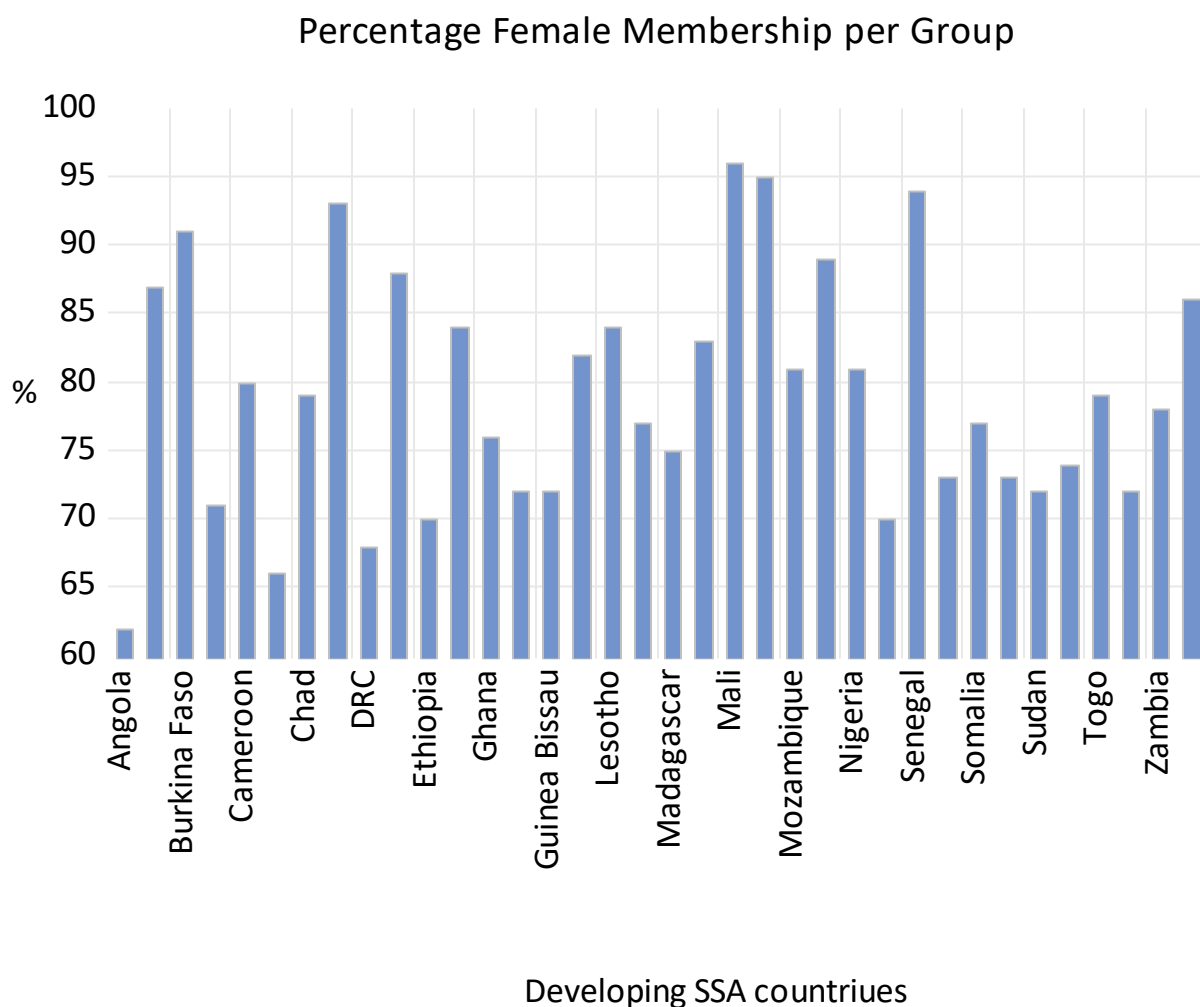
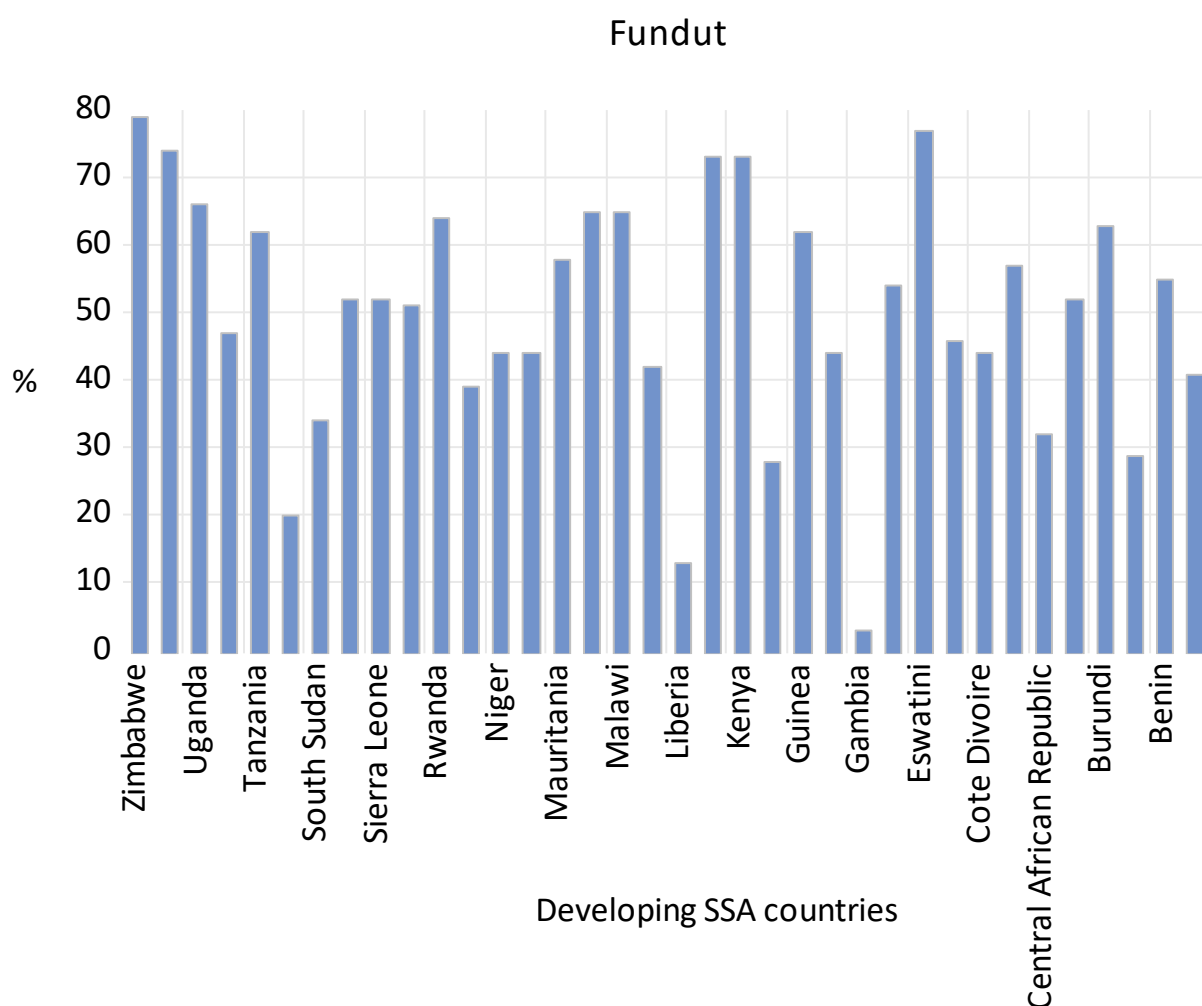


Figure 6.4: Gender distribution of savings groups (percentage of female members per group)

Source: Author Compilation

Among the 18 selected developing SSA countries, the savings groups in Mali have the highest percentage of female members (96% of members are females). The country with the lowest percentage of female members per group is Angola (with 62% of female members per group). The percentage of female membership per group in the developing SSA countries ranges from 62% to 96%. This indicates that savings groups in developing SSA countries are dominated by female members. There is no gender balance in the distribution of members in savings groups in SSA. According to the statistics from SAVIX, the percentage of female members per group is 78%, 78%, 80%, 70% and 48% for global, Africa, Asia, America and Europe, respectively.

Figure 6.5 below indicates the fund utilisation rate for selected SSA countries. For all the figures for the fund utilisation rate (Figure 6.5), first, the inference discussion is based on the 18 selected SSA countries that are visible in the chart. For clean charts, all 36 countries could not be labelled and hence only 18 countries were labelled. Secondly, the overall inference is based on the 36 SSA countries.



Source: Author Compilation

Figure 6.5: Fund Utilisation Rate for Selected SSA Countries

Source: Author Compilation

According to Figure 6.5, among the selected 18 SSA countries, savings groups in Zimbabwe have the highest fund utilisation rate of 79%. This implies that the rate at which the savings groups in Zimbabwe convert savings into loans is higher than in any other developing SSA country. Savings groups in Gambia have the lowest fund utilisation rate of 3%, implying that the uptake of loans from the savings contributions among the savings groups in Gambia is very low. Another reason could be that the savings group members are not well-equipped in terms of financial management and investment; they lack knowledge on the productive use of loans. The low fund utilisation rate might be a result of excessive fund rationing in the group. The group might not be willing to lend more money to members, especially when they face a

default risk, as many members might lack collateral to back the loans. According to the statistics drawn from the SAVIX database, the fund utilisation rates are 55%, 58%, 51%, 33% and 39% for global, Africa, Asia, America and Europe, respectively. The maximum fund utilisation rate of 79% in developing SSA countries (from Zimbabwe) is higher than the average fund utilisation rate of other regions. The prevalence of high financial risk among financial services providers in Zimbabwe contributes to a high rate of adoption of savings groups as the only means to access financial services that are trustworthy. Also, high lending rates in the formal banking sector can deter access to bank loans and cause people to depend on loans from savings groups. Per Trading Economics data as of 31 July 2024, Zimbabwean lending rate stood at 170%. This is excessive and forces people to join and borrow from savings groups.

Figure 6.6 below indicates return on savings for selected SSA countries. For all the figures for the return on savings (Figure 6.6), first, the inference discussion is based on the 18 selected SSA countries that are visible in the chart. For clean charts, all 36 countries could not be labelled and hence only 18 countries were labelled. Secondly, the overall inference is based on the 36 SSA countries.

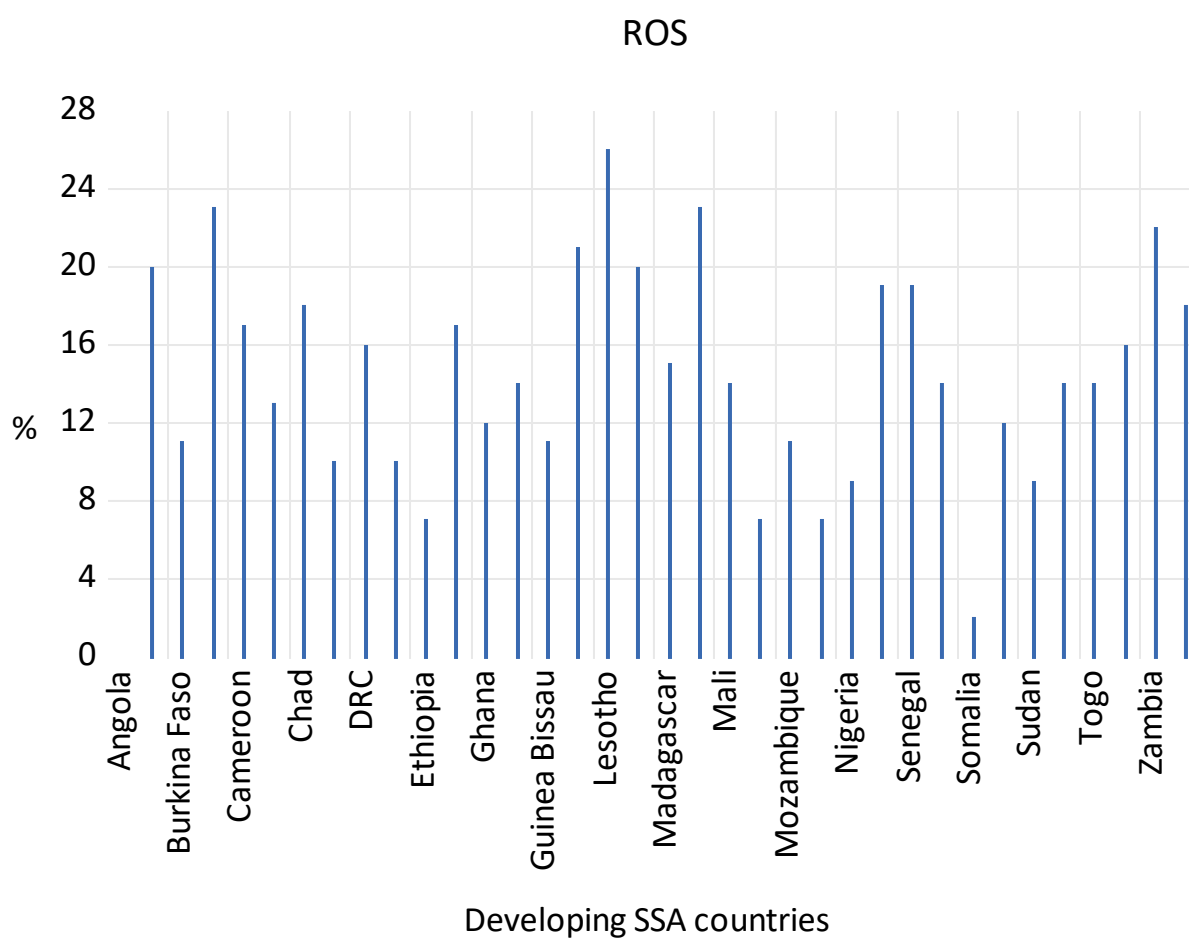


Figure 6.6: Return on Savings for Selected SSA Countries

Source: Author Compilation

According to Figure 6.6, among 18 selected SSA countries, savings groups in Lesotho have the highest return on savings of 26%. This implies that the savings group members in Lesotho enjoy higher returns from their savings contributions as compared to savings group members in the rest of the selected countries. Savings groups in Somalia have the lowest return on savings (2%), implying that the savings group members in Somalia do not get high returns from their savings contributions. According to the SAVIX database, the return on savings for other regions is: 15%, 16%, 10%, 9% and 7% for global, Africa, Asia, America and Europe. The highest return on savings in developing SSA is 26%, that is, from Lesotho. This might be due to high fund utilisation rate, resulting in high returns from the savings, leading to a higher fund utilisation rate for Lesotho than other regions. However, the lowest fund utilisation for developing SSA countries is 3% from Somalia. Somalia might be affected by wars, poverty and starvation. This might result in disturbances in savings groups in terms of

savings, size of the loans and repayment of loans for savings groups, which might negatively affect the return on savings.

6.3 FORMAL BANKING ACCESS AND BANK-SPECIFIC FACTORS IN DEVELOPING SSA COUNTRIES

The study describes formal banking and bank-specific factors in developing SSA countries by focusing on account ownership, borrowers from commercial banks, bank branch network and bank concentration.

Figure 6.7 below indicates formal bank account ownership for selected SSA countries. For all the figures for the formal bank account ownership (Figure 6.7), first, the inference discussion is based on the 18 selected SSA countries that are visible in the chart. For clean charts, all 36 countries could not be labelled and hence only 18 countries were labelled. Secondly, the overall inference is based on the 36 SSA countries.

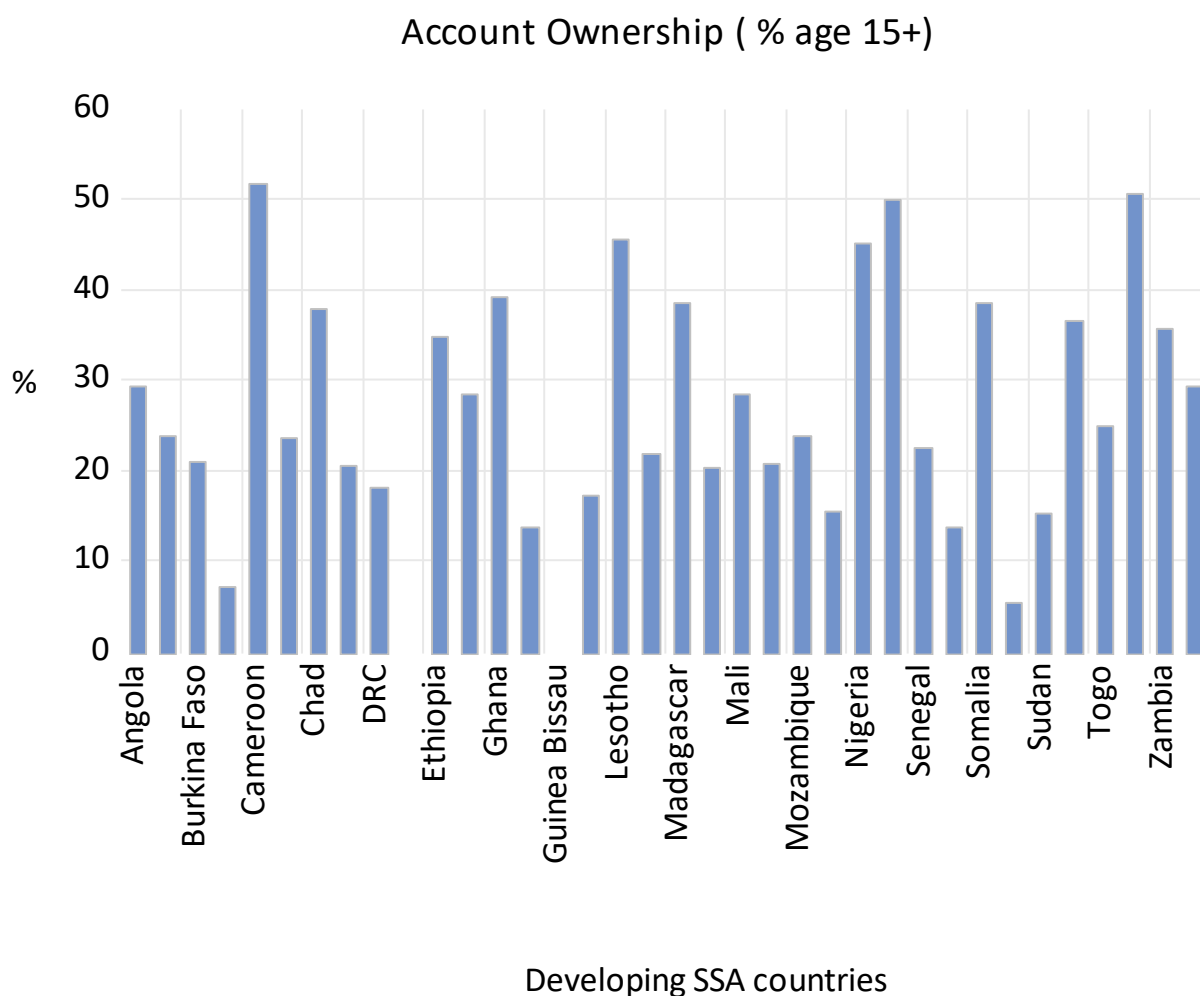


Figure 6.7: Formal Bank Account Ownership (% age 15+)

Source: Author Compilation

According to Figure 6.7, among the 18 selected SSA countries, Cameroon has the highest percentage of account ownership (% age 15+) of 51.65%. According to Global Findex (2021), the global average for account ownership is 76%. Cameroon, with the highest account ownership among the 36 selected developing SSA countries, is behind the global account ownership benchmark of 76%. This implies that in Sub-Saharan Africa, people lack access to formal banking. Countries such as Guinea-Bissau have no recorded data on account ownership. Among the selected 36 developing SSA countries, South Sudan has the lowest rate of account ownership of 5.48%. This supports Mersland et al. (2019), who noted that the lack of access to formal banking has resulted in savings groups in Africa. Savings groups have become the avenues through which savings are made and disbursed as loans. For example, Mersland et al. (2019), using information from the SAVIX database, indicate that in Africa, the number of savings groups grew from 46970 in 2010 to 177486 in 2017. Wale and Makina (2019) also note that poor infrastructure, costs of accessing formal financial services and imperfect markets result in financial exclusion in Africa. Thus, account ownership in the selected SSA countries ranges from 5.48% to 51.65%. This implies that countries in SSA have lower levels of financial inclusion, and this may impede savings groups - formal banking linkages.

Figure 6.8 below indicates the number of borrowers from commercial banks for selected SSA countries. For all the figures for the number of borrowers from commercial banks (Figure 6.8), first, the inference discussion is based on the 18 selected SSA countries that are visible in the chart. For clean charts, all 36 countries could not be labelled and hence only 18 countries were labelled. Secondly, the overall inference is based on the 36 SSA countries.

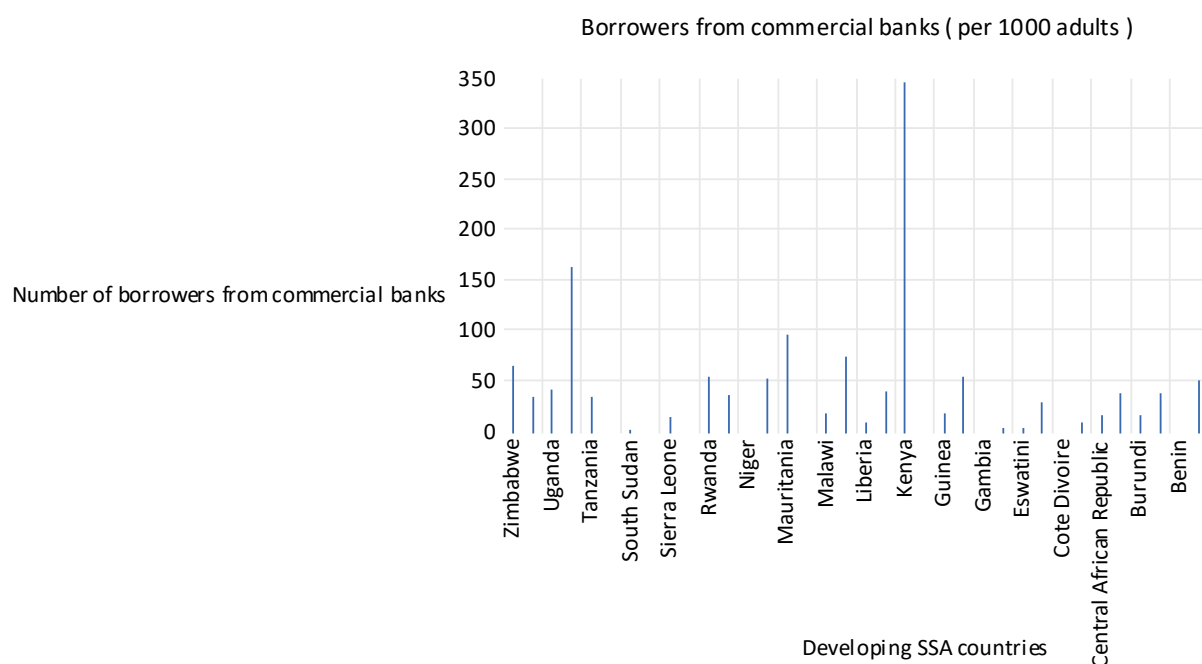


Figure 6.8: Number of borrowers from commercial banks per 1000 adults for selected SSA countries

Source: Author Compilation

As depicted in Figure 6.8, among the 18 selected developing SSA countries, Kenya has the highest number of borrowers from commercial banks (346 borrowers from commercial banks per 1000 adults), and the second highest is Togo with 162 borrowers. Kenya exhibits the highest number of borrowers due to the widespread use of M-Pesa (mobile money) which has influenced the promotion of financial inclusion in Kenya. Dermirguc-Kunt and Klapper (2012a), cited in Makina (2017), highlight that in Kenya, M-Pesa is instrumental in connecting people to formal financial services. The authors noted that mobile money services promoted branchless banking and reduced transaction costs. Therefore, formal banking institutions are riding on mobile money services to reach out to the people. South Sudan has the lowest number of borrowers from commercial banks (0.72 borrowers from commercial banks per 1000 adults). This outcome points out the fact that it is a new country which is struggling to build and organise its economy. Again, given that generally, Africans are lacking in terms of financial literacy, it further exacerbates this case. Prudence finance, which entails knowledge of financial concepts, good financial behaviour and attitude, promotes access to mainstream finance.

Countries such as Benin, Guinea-Bissau and Somalia had no data for borrowers from commercial banks per 1000 adults, possibly due to the effects of wars. Among the 36 selected SSA countries, 33 countries have fewer than 100 borrowers per 1000 adults. Hence, the assertion that those SSA countries are lacking in terms of access to credit facilities.

Figure 6.9 below indicates the number of bank branches per 100 000 adults for selected SSA countries. For all the figures for the number of bank branches per 100 000 adults (Figure 6.9), first, the inference discussion is based on the 18 selected SSA countries that are visible in the chart. For clean charts, all 36 countries could not be labelled and hence only 18 countries were labelled. Secondly, the overall inference is based on the 36 SSA countries.

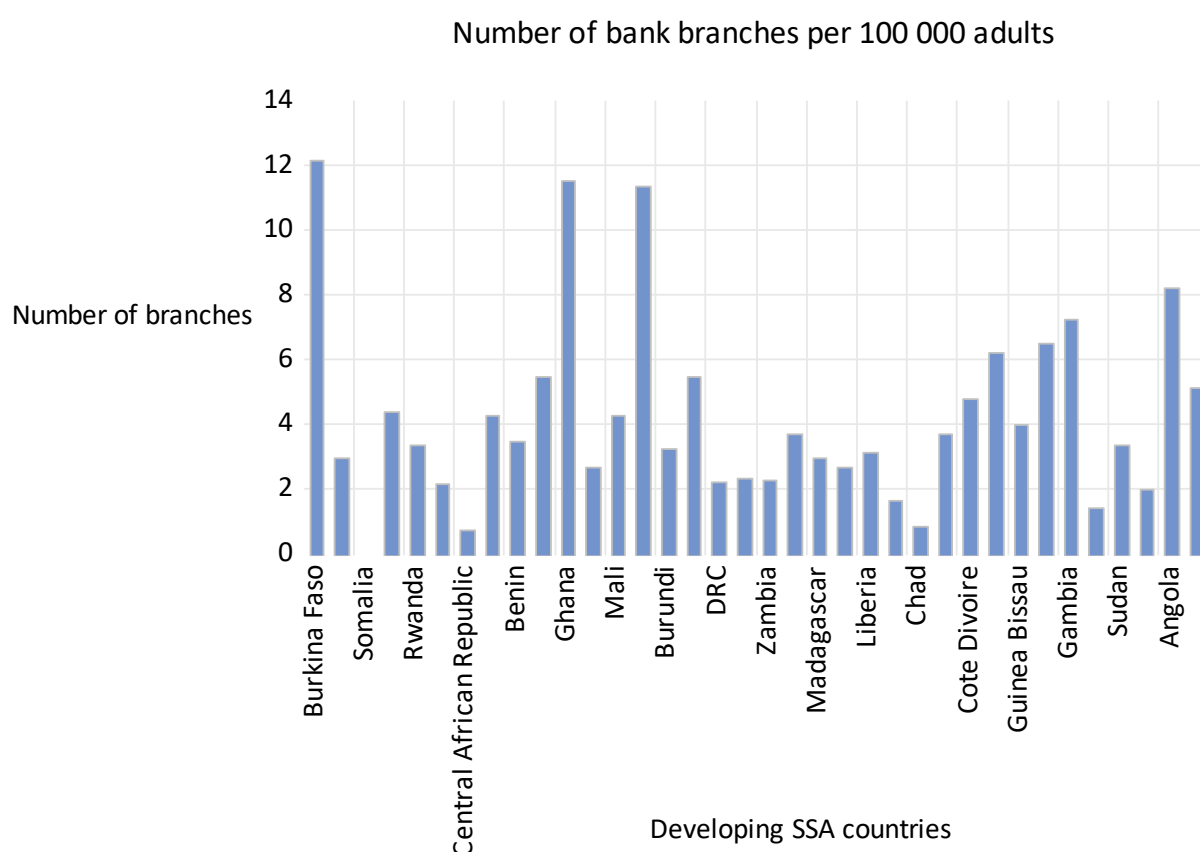


Figure 6.9: Bank Branch Network for Selected SSA Countries

Source: Author Compilation

As portrayed in Figure 6.9 above, among the 18 selected SSA countries, Burkina Faso has the highest number of bank branch networks (12 bank branches per 100,000 adults). Most countries have fewer than 12 bank branches per 100 000 adults, except for Somalia, which had no data for bank branches per 100 000 adults. According to the IMF financial access survey (2023), the global average for bank branches per 100,000 adults stood at 12.3. Burkina Faso, with the highest number of bank branch networks per 100 000 adults, is behind the global average. This accounts for the poor distribution of bank branches in SSA, which has been exacerbated by poor road networks connecting towns and villages. Given this finding, many people in SSA are using fewer bank branches, leading to longer queues and wasted time. In essence, it discourages access to formal banking by savings group members.

Figure 6.10 below indicates bank concentration for selected SSA countries. For all the figures for the bank concentration (Figure 6.10), first, the inference discussion is based on the 18 selected SSA countries that are visible in the chart. For clean charts, all 36 countries could not be labelled and hence only 18 countries were labelled. Secondly, the overall inference is based on the 36 SSA countries.

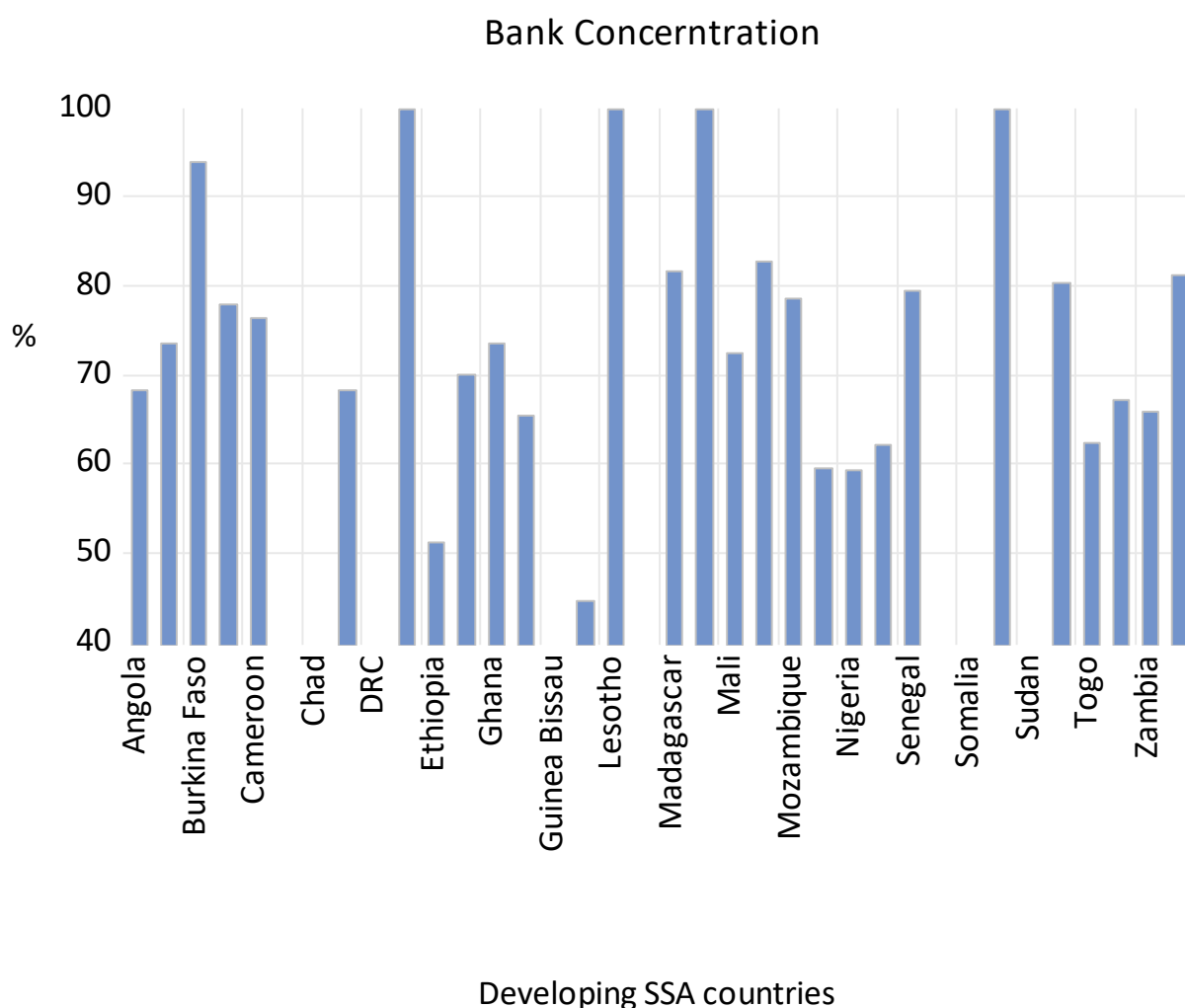


Figure 6.10: Bank Concentration for Selected SSA Countries

Source: Author Compilation

Per Figure 6.10, among the 18 selected SSA countries, Eswatini, Lesotho, South Sudan and Malawi have a bank concentration of 100%. Kenya has the lowest bank concentration of 44.81%. Bank concentration in developing SSA countries ranges from 44.81% to 100%. Given the overall statistics, the World Bank (2021) global average bank concentration of 72% means that in SSA, banking sectors are controlled by few large banking institutions. Chauvet and Jacolin (2017) reveal that high bank concentration reduces competition in the banking sector and reduces financial inclusion. In essence, people have very limited options and are not ready to absorb the exorbitant bank charges arising from low competition in the banking sector. This is a major driver of the high number of savings groups observed in SSA, as people have no options other than informal finance. This shift reduces the likelihood or

readiness to uptake formal financial activities, possibly pointing out low access to banking by savings group members.

6.4 CORRELATION BETWEEN SAVINGS GROUPS ATTRIBUTES AND BANK-SPECIFIC FACTORS

This study describes the correlations among savings groups' attributes such as return on assets, return on savings, fund utilisation rate, gender representation of members (% female members), average savings per member, average loan size per member and percentage of members with outstanding loans, and bank-specific factors such as bank account ownership, borrowers from the commercial banks, number of bank branches, number of Automated Teller Machines (ATMs) and bank concentration. Table 7.1 below explains the variables used in the correlation analysis.

Table 6.1: Explanation of Abbreviations for Variables Used in the Correlation Analysis

Variable	Explanation of the Variable
ROA	Return on Assets
FUNDUT	Fund utilisation Rate
ROS	Return on Savings
AVSAVPERM	Average savings per group member
AVLSPM	Average loan size per group member
MLNOUT	Percentage of members with loans outstanding
FEMAL	Percentage of female members in the group
AVMEMB	Average number of members per group
BANKACC	Number of bank accounts per 1000 adults
BORRC	number of borrowers from commercial banks per 1000 adults
BANKCONC	Bank concentration

ATM	Number of Automated Teller Machines per 100,000 adults
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Source: Author Compilation

Table 6.2 below shows the correlation among savings group attributes, financial access indicators and bank-specific factors.

Table 6.2: Correlation between Savings Groups Attributes, Financial Access Indicators, and Bank-Specific Factors

	ROS	FEMAL	AVSAVPERM	AVLSPM	MLNOUT	FUNDUT	ROA	AVMEB	BORRC	BANKACC	BANKCONC	ATM
ROS	1											
FEMAL	0.11	1.00										
AVSAVPERM	-0.09	0.32	1.00									
AVLSPM	-0.01	0.32	0.93	1.00								
MLNOUT	-0.14	0.33	0.85	0.88	1.00							
FUNDUT	0.44	0.11	-0.03	0.12	0.11	1.00						
ROA	0.33	0.23	0.18	0.34	0.18	0.34	1.00					
AVMEB	0.46	0.02	-0.34	0.27	-0.17	0.61	-0.29	1.00				
BORRC	0.21	0.10	-0.09	0.09	0.09	0.35	-0.24	0.31	1.00			
BankACC	-0.13	0.08	-0.30	0.30	-0.04	0.41	-0.60	0.75	0.47	1.00		
BANKCONC	-0.02	0.03	-0.27	0.23	0.02	0.14	-0.14	0.46	0.17	0.47	1.00	
ATM	0.23	0.09	0.25	0.26	0.08	0.28	-0.65	-0.62	0.43	-0.91	-0.39	1

Source: Author Compilation

As depicted in Table 6.2, the bank account per 1000 adults has a weak association with all the variables, with negative or positive values, apart from average number of members per group. This outcome signifies that an increase or decrease in bank account ownership has a minimal effect on the rest of the variables. For example, high bank account ownership is weak in determining the average savings per savings group member. However, though bank account ownership indicates access to formal finance, a deposit account is the actual determinant in these relationships. Due to low levels of financial literacy in the region, most of the bank accounts are either empty or underused.

Also, the number of automated teller machines per 100,000 adults, bank concentration, the number of borrowers from commercial banks per 1000 adults, average number of members per group, and percentage of female members in the groups have a weak correlation with most of the indicators. The rest of the relationships with loan sizes per group member are weak. For average savings per group member, the only strong correlation is with average loan size per group member. This insinuates that the more savings are made by members, the bigger the loans dished out. Aside from return on assets, return on savings shows no strong correlation with the rest of the indicators.

6.5 DESCRIPTIVE STATISTICS FOR SAVINGS GROUPS CHARACTERISTICS, FINANCIAL ACCESS AND BANK-SPECIFIC FACTORS

This study used descriptive statistics to describe the savings groups' characteristics, financial access indicators and bank-specific factors. Mean maximum, minimum and standard deviation were used to describe savings groups' characteristics, financial access indicators and bank-specific factors.

Table 6.3: Descriptive statistics for Savings Groups' characteristics in SSA

	RO S	FEM AL	MA L	AVSA VPG	AVSAV PERM	AVLN OPG	AVL SPM	MLN OUT	FUN DUT	RO A
Mean	14.19	79.17	20.83	759.66	30.58	355.65	42.53	35.92	50.11	10.78
Standard Error	0.98	1.44	1.44	141.98	6.48	64.76	9.33	2.68	2.97	0.64
Median	14.00	78.50	21.50	533.58	19.50	247.01	31.00	36.50	52.00	11.00
Standard Deviation	5.86	8.65	8.65	851.85	38.90	388.59	56.00	16.11	17.85	3.85
Sample Variance	34.39	74.83	74.83	725654.21	1512.99	150999.64	3135.74	259.39	318.50	14.81
Kurtosis	0.01	-0.63	-0.63	13.47	18.97	17.82	30.92	-0.54	0.29	0.65
Skewness	-0.26	0.28	-0.28	3.25	4.12	3.71	5.39	-0.36	-0.62	-0.31
Range	26.00	34.00	34.00	4710.10	223.00	2284.25	348.00	63.00	76.00	19.00
Minimum	0.00	62.00	4.00	36.40	2.00	7.04	10.00	2.00	3.00	0.00
Maximum	26.00	96.00	38.00	4746.50	225.00	2291.29	358.00	65.00	79.00	19.00
Sum	511.00	2850.00	750.00	27347.73	1101.00	12803.38	1531.00	1293.00	1804.00	388.00
Observations	36	36	36	36	36	36	36	36	36	36

Source: Author Compilation

The Return on Assets (ROA) for SSA countries is slightly less than the continental (African) average of 12% and the global average of 11%. This implies that the overall

African continental and global ROA exceed the ROA for the selected 36 SSSA countries. This might be that savings groups in SSA countries are mainly composed of members who are of low socio-economic status. Therefore, savings groups serve members who are underserved with an objective of providing financial access as a way of solidarity and support to fellow community members without much focus on the profitability of the group. The median for ROA for SSA countries is 11%. The mean Return on Savings for SSA countries is slightly below the continental (African) and global averages of 16% and 15% respectively. This implies that in terms of ROS, the savings groups in SSA underperformed the continental and global averages, pointing correctly to the low socio-economic status of the members. One of the major characteristics of a class of people is the inability to repay loans, which discourages multiple lending, leading to lower returns on savings. The median ROS for SSA countries is 14%. The mean Fund Utilisation (FUNDUT) for SSA countries is below the continental (African) and global averages of 58% and 55% respectively. This might be due to credit rationing in the group as a way of reducing losses due to loan default by members. Most of the groups are composed of members who have low socio-economic status, and hence credit rationing might be the way to curb loan defaults.

The mean percentage of female group members (FEMAL) in SSA countries is slightly above the global and continental (African) averages of 78%. This might be due to the limited access to formal financial services by women, which leaves them with no choice but to access financial services through informal financial institutions such as savings groups. The median value for the percentage of female members in the group in SSA countries is 78.5%. The mean percentage of males in savings groups is low in SSA countries. This indicates less participation of men in savings groups. This may be because men have more access to formal financial services than women, and hence their participation in savings groups is minimal.

The mean for the average loan outstanding per group (AVLOANOUT) for SSA countries exceeds the global and continental (African) average of US\$303.62 and US\$289.09. This might be because most savings group members in SSA have challenges in accessing formal credit. They resort to borrowing from their savings groups, and hence, this leads to a high average loan outstanding per group.

The mean average savings per member (AVSAVPERMEMB) in SSA countries is greater than for global and continental (African) averages of US\$25 and US\$21 respectively. This is because many people in SSA countries have no access to formal banking, and they make most of their savings in informal financial institutions such as savings groups. The mean for the average loan size per member in SSA countries is above the global and continental averages of US\$40 and US\$34 respectively. This implies that the loan sizes that the groups give to members in SSA outperform the global and continental averages. This is because of high average savings per member for the groups in SSA countries, which creates more loanable funds, leading to high average loan size per member as compared to global and continental (African) averages. The mean average number of members per group in SSA is equal to the global and continental (African) average of 23 members per group. This is consistent with many previous studies that highlight that the average number of members per group is between 15 and 25. Table 6.4 below shows the descriptive statistics for bank-specific factors.

Table 6.4: Descriptive statistics for Bank-specific factors

	DRATE	LR	BANKCONC	ATM	MMACC	BBRANCH
Mean	17.02	20.24	75.12	8.75	32.22	4.33
Standard Error	1.50	4.58	2.13	1.95	2.92	0.47
Median	17.02	16.21	75.79	6.24	32.22	3.58
Mode	17.02	5.14	75.79	6.94	32.22	3.37
Standard Deviation	9.00	27.49	12.78	11.73	17.53	2.81
Sample Variance	80.98	755.80	163.28	137.52	307.38	7.89
Kurtosis	2.38	26.70	0.58	14.11	0.12	1.99

Skewness	0.91	4.90	0.20	3.56	0.35	1.48
Range	45.02	164.86	55.19	62.36	67.90	11.42
Minimum	0.12	5.14	44.81	0.36	0.80	0.71
Maximum	45.14	170.00	100.00	62.72	68.70	12.13
Sum	612.77	728.58	2704.36	314.91	1159.81	155.72
Observations	36	36	36	36	36	36

Source: Author Compilation

Table 6.4 above indicates that in SSA countries, the mean lending rates (20.24%) are greater than the mean deposit interest rates (17.02 %). The implication is that the bank customers earn less from their deposits in the bank, whilst they are being charged more when they borrow from the bank. Based on the lending rates and deposit rates, banks benefit more than their clients. This might discourage savings groups from using formal banking products because they may be charged more when they borrow and earn less from their formal savings. This indicates that most of the formal banking institutions in SSA countries are more concerned about their profitability than their clients. This may make people with low socio-economic status, such as savings groups, reluctant to link with formal banking.

SSA countries have very high bank concentration levels (with a mean of 75.12 %). This indicates that the banking structure in SSA countries is not conducive to savings group–formal banking in that few large banks control the banking sector and there is limited competition in the sector. This might lead to exploitation of bank customers through the provision of improper products, poor distribution channels and unfair pricing mix strategies of the products. Formal banking institutions might end up using marketing mix strategies that are not fair to the users of the formal banking products, hindering access to formal banking.

The number of ATMs and the branch network is low in SSA countries. This might be due to poor formal banking infrastructure and the absence of ATMs and bank branches in remote areas, where most of the savings group members, given their low socio-economic status, reside. A few numbers of ATM and a low branch network bring a challenge to bank outreach and hinder savings groups – formal banking linkages. In SSA countries, the ownership of mobile money accounts is low. This might stem from the fact that most people might have not adopted mobile money due to low-income levels and low financial literacy levels. Some SSA countries, such as Zimbabwe, are cash economies, where people prefer to transact using cash to mobile money. To add on that some SSA countries such as Zimbabwe have exorbitant mobile money charges (where extra remittance-based tax are levied on mobile money charges. This may discourage adoption and usage of mobile money as indicated by Mersland et al. (2019) that most of the savings groups are located in rural areas where the mobile money facilities may be limited.

Table 6.5: Descriptive statistics for access and usage of formal banking products

	DCREDIT	BORRC	ACCOWN
Mean	28.95	49.42	27.91
Standard Error	1.32	9.82	2.00
Median	28.95	44.86	26.25
Mode	28.95	49.42	27.60
Standard Deviation	7.91	58.90	11.97
Sample Variance	62.61	3469.27	143.32
Kurtosis	0.00	19.08	-0.51
Skewness	0.68	3.99	0.33
Range	30.29	345.28	46.17
Minimum	17.71	0.72	5.48
Maximum	48.00	346.00	51.65
Sum	1042.08	1779.13	1004.59
Observations	36	36	36

Source: Author Compilation

Table 6.5 above shows low mean averages for bank account ownership, number of borrowers from commercial bank per 1000 adults and domestic credit from the financial sector (% of GDP). Low average account ownership in SSA countries may be a result of poor bank infrastructure, strict regulations and poor branch network and

unfair pricing mix strategies for bank products, which discourage people from opening bank accounts. SSA countries are faced with low levels of financial literacy, mainly among those savings groups that are composed of members of low socio-economic status, leading to low levels of bank account ownership. The number of borrowers from commercial banks is low because formal banking institutions in SSA countries have very strict lending policies and very high lending rates (e.g. Zimbabwe had lending rates of 170% by July 2024 according to the data from Trading Economics), and this discourages savings groups from borrowing from commercial banks. Domestic credit from the financial sector (% GDP) is low in SSA countries. This is because financial institutions are very risk-averse and are not willing to lend to risky clients such as savings groups, given their socio-economic status. The financial institutions end up practising credit rationing, leading to low levels of domestic credit from the financial sector.

6.6 IMPACT OF GROUP COMPOSITION AND STATUS ON ACCESS TO FORMAL BANKING BY SAVINGS GROUP MEMBERS

The study determines the impact of savings group composition and status on access to formal banking by savings group members in SSA by using the Ordinary Least Squares Regression technique. Two regressions were performed to investigate bank access through the savings and credit legs. The following OLS regression analysis model is on the impact of savings groups' composition and status on access to formal savings by the savings groups in SSA countries.

$$\begin{aligned}
 ACCOWN = & \alpha + \beta_1(FEMAL) + \beta_2(AVMEMB) + \beta_3(AVLNOPG) + \beta_4(MLNOUT) \\
 & + \beta_5(AVSAVPERM) + \beta_6(GDP) + \beta_7(INFL) + \beta_8(MMACC) \\
 & + \beta_9(BANKCONC) + \beta_{10}(BBRANCH) + \beta_{11}(DRATE) + \beta_{12}(LR) \\
 & + \beta_{13}(DCREDIT) + \beta_{14}(ATM) + \beta_{15}(BORRC) \\
 & + \varepsilon \dots \dots \dots \text{Equation 1}
 \end{aligned}$$

The following table OLS is the explanation of abbreviation of variables for the impact of savings groups' composition and status on access to formal savings by the savings groups in SSA countries.

Table 6.6: Explanation of Abbreviations for Variables

ABBREVIATION	EXPLANATION OF THE VARIABLES
ACCOWN	Account Ownership (% 15 years +)
FEMAL	Percentage of female members per group
AVMEMB	Average number of members per group
AVLNOPG	Average loan outstanding per group
MLNOUT	Percentage of members with loans outstanding
AVSAVPERM	Average savings per member
GDP	Gross Domestic Product per capita
INFL	Inflation rate
MMACC	Mobile money account ownership (% 15 years +)
MPSEND	Mobile phone used to send money (% 15 years+)
BANKCONC	Bank concentration
BBRANCH	Number of bank branches per 100, 000 adults
DRATE	Deposit interest rate
LR	Lending interest rates
DCREDIT	Domestic credit from the financial sector (% GDP)
ATM	Number of ATMs per 100, 000 adults
BORRC	Number of borrowers from the commercial banks per 1000 adults.

Source: Author Compilation

Heteroskedasticity test using Breusch Pagan Godfrey: Impact of group composition and status on access to formal savings

H0: The variances are constant in savings groups – formal savings linkage model.

H1: The variances are not constant in savings groups – formal savings linkage model

Reject the null hypothesis if the Breusch Pagan Godfrey value is less than 0.05.

Table 6.7: Breusch – Pagan Godfrey Test Results

F- Statistic	0.969260	Prob. F (16,19)	0.5201
Obs*R- square	16.17860	Prob. Chi- Square (16)	0.4406
Scaled explained SS	3.582502	Prob. Chi- Square (16)	0.9995

Source: Author Compilation

The Chi-Square in the Breusch Pagan Godfrey value of 0.4406 is above 0.05; hence, the null hypothesis is accepted, implying there is no heteroskedasticity.

Table 6.8: Testing Multicollinearity

Variable	Coefficient Variance	Variance Inflation Factor (VIF)
FEMAL	0.065198	1.69
AVMEMB	0.873248	3.64
AVLNOGP	0.000169	8.88
MLNOUT	0.022842	2.06
AVSAVPERM	0.014778	7.76
GDP	1.882	3.82
INFL	5.75	2.099
MMACC	0.020	2.15
MPSEND	0.11	1.63
BANKCONC	0.056	3.18
BBRANCH	0.78	2.12
DRATE	0.067	1.88
LR	0.0076	1.996
DCREDIT	0.0854	1.86
ATM	0.466	2.224

BORRC	0.002262	2.72
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Source: Author Compilation

The Variance Inflation Factors (VIFs) for all the independent variables are less than 10; hence, no problem of multicollinearity among the independent variables.

The following is the Ramsey RESET test for the omitted variables.

Null Hypothesis: There are no omitted variables in the model.

Alternative hypothesis: There are omitted variables in the regression model.

Reject the null hypothesis if the P- value of F-statistic for Ramsey RESET test is less than 0.05.

Table. 6.9 Ramsey RESET Test: Omitted Variable Test

	Value	Df	Probability
t-statistic	1.35668	18	0.1917
F-statistic	1.840602	(1,18)	0.1917
Likelihood ratio	3.504912	1	0.0612

Source: Author Compilation

The P- value of F-statistic for Ramsey RESET test is 0.1917 and is above 0.05. The null hypothesis that there are no omitted variables is not rejected. Therefore, the regression model for the impact of group composition and status on access to formal savings has no omitted variables.

Table 6.10: Impact of savings groups' composition and status on access to formal savings by savings group members

Dependent Variable	ACCOWN			
Number of observations	36			
Variable	Co-efficient	Std. Error	t-Statistic	Prob
C	60.62058	35.25457	1.719510	0.1018
FEMAL	0.260707	0.25539	1.021031	0.3201
AVMEMB	-1.282741	0.934478	-1.372682	0.1858
AVLNOGP	0.032455	0.013015	2.493742	0.0220*
MLNOUT	-0.193218	0.151135	-1.278445	0.2165
AVSAVPERM	-0.273783	0.121566	-2.252141	0.0363

GDP	-0.005984	0.004262	-1.404054	0.1764
INFL	-0.000591	0.000758	-0.77865	0.4458
MMACC	0.186712	0.142034	1.314561	0.2043
BANKCONC	-0.288062	0.236721	-1.216884	0.2385
BBRANCH	0.340172	0.880433	0.386369	0.7035
DRATE	0.104511	0.258937	0.403618	0.6910
LR	0.072724	0.087226	0.833743	0.4148
DCREDIT	-0.585167	0.292258	-2.002232	0.05759
ATM	0.122883	0.215872	0.569241	0.5759
BORRC	-0.112215	0.047563	-2.359301	0.0292*
R Square	0.618119		Mean dependent Var	27.90528
Adjusted R Square	0.296536		S.D dependent Var	11.97161
S.E. of regression	10.04093		Akaike info criterion	7.756580
Sum squared resid	1915.584		Schwarz Criterion	8.50433
Log likelihood	-122.6184		Hanna-Quin Criter	8.017573
F- Statistic	1.922110		Durbin Watson Stat	2.1016105
Prob (F- statistic)	0.087405			

Source: Author Compilation

The Durbin-Watson value of 2.10 is within the range of 1.5 and 2.5, showing that there is no presence of serial correlation in the model. R Square is 0.6181, implying that about 61.81 % of adult bank account ownership in the SSA countries are explained by the independent variables. The p- value of the F- statistics is 0.087405, which is less than 0.1 and shows that there is enough evidence to conclude that the regression model fits the data better than a model without independent variables.

Aside from the average savings per member, number of borrowers from commercial banks per 1000 adults and average loans outstanding per group, the rest of the independent variables are insignificant in influencing access to formal savings through the possession of bank accounts. The average savings per member, with a statistically significant coefficient of -0.273783, has a negative impact on access to formal savings. Despite the fact that higher savings per member which result in high accumulated savings in the group and act as a collateral and attraction for opening bank account,

lack of financial literacy contributes to lack of awareness of the formal banking savings products which hinder access to formal savings. Lack of financial literacy is one of the attributes of the savings group members and it hinders them from making prudent financial behaviours. Stringent account opening requirements, high bank charges and long distance to the nearest bank (which results in extra travelling costs and risk of carrying cash over a long distance) based on literature are factors that have been highlighted in literature as hindering access to formal banking. The implication is that despite an increase in average savings per member, stringent account opening procedures, high bank charges and long distances to the nearest branch may hinder access to formal savings by the savings. The savings group members may be reluctant to lose their money in terms of bank charges, travel costs to the nearest branch and the risk of loss of funds as a result of travelling with money over long distances to a nearest bank branch (especially when savings can be stolen on the way to the bank).

The average loan outstanding per group with a statistically significant coefficient of 0.032455 has a positive impact on access to formal savings. High loans outstanding per group are a sign of a higher demand for loans in the group. It shows that the demand for the loans in the group may exceed the internal capacity of the group and hence acting as a motivator to open a bank account in order to access more financial products which improve the groups' capacity to meet demand for loans. High loans outstanding per group also result in high fund utilisation rate and improve groups' income generation capacity, through money earned from interest generated by loans (ROS) and businesses that can be established by members through access to loans. This increases the motivation to open a bank account. Number of borrowers from commercial banks per 1000 adults with a statistically significant coefficient of -0.112215 has a negative impact on access to formal savings.

Average number of members per group (group size), percentage of members with outstanding loans, Gross Domestic Product Per Capita, inflation rate, bank concentration and domestic credit from the financial sector (% GDP) have a negative and insignificant impact on bank account ownership. This may be due to lower levels of financial literacy in SSA countries. Owing to low levels of financial literacy, people might not be aware of formal banking products.

Mobile money account ownership, bank branch network, deposit interest rates, number of ATMs per 100, 000 adults and lending interest rates have a positive and insignificant impact on the ownership formal bank accounts. The following OLS regression equation is on the impact of group composition and status on access to formal credit by savings groups in SSA countries.

$$\begin{aligned}
 &BORRC \\
 &= \alpha + \beta_1(FEMAL) + \beta_2(AVLNOPG) + \beta_3(AVSAVPERM) + \beta_4(GDP) + \beta_5(INFL) \\
 &+ \beta_6(MMACC) + \beta_7(BANKCONC) + \beta_8(BBRANCH) + \beta_9(LR) + \beta_{10}(ATM) \\
 &+ \beta_{10}(DCREDIT) \\
 &+ \varepsilon \dots\dots\dots \text{equation 2}
 \end{aligned}$$

Table 6.10 below explains the abbreviations for the variables used in the OLS regression equation is on the impact of group composition and status on access to formal credit by savings groups in SSA countries.

Table 6.11: Explanation of Abbreviations for Variables

ABBREVIATIONS	Explanation of Variables
FEMAL	Percentage of female members per group
AVLNOPG	Average loans outstanding per group
AVSAVPERM	Average savings per member
GDP	Gross Domestic Product per capita
INFL	Inflation rate
MMACC	Mobile Money Account Ownership (% 15 years +)
BANKCONC	Bank concentration
BBRANCH	Number of bank branches per 100, 000 adults
LR	Lending interest rates
ATM	Number of ATMs per 100, 000 adults
DCREDIT	Domestic credit from the financial sector (% GDP)

Source: Author Compilation

Heteroskedasticity test using Breusch Pagan Godfrey: Impact of group composition and status on access to formal credit

H0: The variances are constant in savings groups – formal credit linkage model.

H1: The variances are not constant in savings groups – formal credit linkage model

Reject the null hypothesis if the Chi-Square in the Breusch Pagan Godfrey value is less than 0.05.

Table 6.12: Breusch – Pagan Godfrey Test Results

F-Statistic	1.955413	Prob. F (11,24)	0.0822
Obs*R Square	17.01497	Prob. Chi- Square (11)	0.1074
Scaled explained SS	21.13528	Prob. Chi- Square (11)	0.0320

Source: Author Compilation

The Breusch Pagan Godfrey result of 0.1074 is above 0.05, hence the null hypothesis is accepted and there is no heteroskedasticity in the model.

Table 6.13: Multicollinearity Test

Variable	Coefficient Variance	Variance Inflation Factor (VIF)
FEMAL	1.313	1.488
AVLNOGP	0.0022	5.129
AVSAVPERM	0.232	5.306
GDP	0.000257	2.36
INFL	9.73	1.55
MMACC	0.3197	1.495
BANKCONC	0.681	1.683
BBRANCH	12.52	1.495
LR	0.112	1.291
ATM	1.0087	2.1004
DCREDIT	1.823	1.728

Source: Author Compilation

The Centred Variance Inflation Factors (VIFs) for all the independent variables are less than 10. There is no problem of multicollinearity among the independent variables.

The following is the Ramsey RESET test for the omitted variables.

Null Hypothesis: There are no omitted variables in the model.

Alternative hypothesis: There are omitted variables in the regression model.

Reject the null hypothesis if the P- value of F-statistic for Ramsey RESET test is less than 0.05.

Table 6.14: Ramsey RESET Test: Omitted Variable Test

	Value	Df	Probability
t-statistic	7.003837	23	0.0000
F- statistic	49.05374	(1,23)	0.0000
Likelihood ratio	41.10905	1	0.0000

Source: Author Compilation

The P- value of F-statistic for Ramsey RESET test is 0.000 and is below 0.05. The null hypothesis that there are no omitted variables is rejected. Therefore, the regression model for the impact of group composition and status on access to formal savings has omitted variables. These variables lie outside the dataset accessed and used by the researcher.

Table 6.15: Impact of savings groups' composition and status on access to formal credit by savings group members

Dependent Variable	BORRC			
Number of observations	36			
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	65.30219	87.81426	0.743640	0.4643
FEMAL	1.310955	1.145916	1.144024	0.2639
AVLNOGP	0.048161	0.047363	1.016853	0.3194
AVSAVPERM	-0.612553	0.481266	-1.272795	0.2153
GDP	-0.014344	0.016045	-0.894008	0.3802
INFL	0.004211	0.003119	1.350115	0.1896
MMACC	1.635958	0.565424	2.893328	0.0080
BANKCONC	-2.736164	0.825219	-3.315683	0.0029
BBRANCH	3.776619	3.538437	1.067313	0.2964
LR	0.162212	0.335900	0.482918	0.6335
ATM	0.574645	1.004351	0.572156	0.5725
DCREDIT	0.889215	1.350038	0.658659	0.5164
R -square	0.543112		Mean dependent var	49.42028
Adjusted R- Square	0.333705		S.D dependent var	58.90049
S.E of regression	48.07865		Akaike info criterion	10.84476
Sum squared resid	55477.36		Schwarz criterion	11.37259
Log likelihood	-183.2065			
F- Statistic	2.593570		Durbin Watson	2.457582
Prob (F- Statistic)	0.024675			

Source: Author Compilation

The Durbin Watson value of 2.457582 is within the range of 1.5 and 2.5. This implies that there is no problem of serial correlation among the independent variables in the regression model. The coefficient of determination (R Square) is 0.543112. This implies that about 54.31% of the number of borrowers from the commercial banks per 100 adults is explained by the independent variables in the model. The p value of the

F- statistic is 0.024675, which is less than 0.05, it indicates that there is enough evidence to conclude that the regression model fits the data better than a model without independent variables.

Aside from bank concentration and ownership of mobile money account, all the other independent variables namely percentage of female members per group, average loan outstanding per group, average savings per member, Gross Domestic Product per Capita, inflation rate, number of bank branches per 100, 000 adults, lending interest rates, number of ATMs per 100, 000 adults and domestic credit from the financial sector (%GDP) have statistical insignificant impact on the access by savings groups to formal credit.

Bank concentration with a statistically significant coefficient of -2.736164 has a negative impact on access to formal credit. This is because higher bank concentration is a signal that the financial sector is dominated by very few big banks and there is no competition in the financial sector. They might culminate in expensive and limited credit products which may discourage savings groups, given the low-economic status of the members, from accessing formal credit. Ownership of mobile money account, with a statistically significant coefficient of 1.635958 has a positive impact on access to formal credit. Use of mobile money accounts creates a digital financial transaction for savings groups, this creates transaction history, which can be used by banks to determine credit worthiness (in the form of assessment of savings habits and cashflows) of savings groups, leading to access to formal credit.

The average savings per member and Gross Domestic Product per capita have a negative and insignificant impact on access to formal credit by savings groups. Percentage of female members per group, average loans outstanding per group, inflation rate, number of bank branches per 100, 000 adults, lending interest rates, number of ATMs per 100, 000 adults and domestic credit from the financial sector (% GDP) have a positive and insignificant impact on access to formal credit by savings groups in SSA countries.

6.7 IMPACT OF SAVINGS GROUP PERFORMANCE ON ACCESS TO FORMAL BANKING

In order to ascertain the impact of savings group performance on access to formal banking, the study uses Ordinary Least Squares (OLS) regression analysis with two econometric models for savings and credit linkages. The following OLS regression analysis model is on the impact of group performance on access to formal savings by savings groups in SSA countries. The following OLS regression analysis model is on the impact of group financial performance on access to formal savings by savings groups in SSA countries.

$$\begin{aligned}
 ACCOWN = & \alpha + \beta_1(AVSAVPERM) + \beta_2(ROS) + \beta_3(GDP) + \beta_4(BBRANCH) \\
 & + \beta_5(BANKCONC) + \beta_6(BORRC) + \beta_7(MMACC) + \beta_8(MPSEND) \\
 & + \beta_9(DCREDIT) + \beta_{10}(DRATE) + \beta_{11}(ATM) + \beta_{12}(FEMAL) \\
 & + \beta_{13}(AVMEMB) + \beta_{14}(AVLNOPG) + \beta_{15}(MLNOUT) \\
 & + \varepsilon \dots \dots \dots \text{Equation 3}
 \end{aligned}$$

The following table explains the Abbreviation of variables for OLS regression analysis model is on the impact of group performance on access to formal savings by savings groups in SSA countries.

Table 6.16: Explanation of Abbreviation for Variables

Abbreviations	Explanation of Abbreviations for The Variables
ACCOWN	Account ownership (% 15 years +)
AVSAVPERM	Average savings per member
ROS	Return On Savings
GDP	Gross Domestic Product Per Capita
BBRANCH	Number of bank branches per 100, 000 adults

BANKCONC	Bank concentration
BORRC	Number of borrowers from the commercial banks per 1000 adults
MMACC	Mobile Money Account ownership
MPSEND	Mobile phones used to send money
DCREDIT	Domestic credit from the financial sector (% GDP)
DRATE	Deposit interest rate
ATM	Number of ATMs per 100, 000 adults
FEMAL	Percentage of female members per group
AVMEMB	Average number of members per group
AVLNOPG	Average loan outstanding per group
MLNOUT	Percentage of members with outstanding loans

Source: Author Compilation

In order to adhere to the assumptions of the Ordinary Least Square regression analysis, tests for heteroskedasticity, multicollinearity and serial correlation (Durbin-Watson) were carried out as follows.

Test for Heteroskedasticity: Impact of group performance on access to formal savings by savings groups

H0: The variances are constant in savings groups – formal savings linkage model.

H1: The variances are not constant in savings groups – formal savings linkage model

Reject the null hypothesis if the Chi-Square value in Breusch Pagan Godfrey is 0.05

Table 6.17: Heteroskedasticity Test: Breusch Pagan Godfrey: Impact of group performance on access to formal savings by savings groups

F- Statistic	0.972506	Prob. F (15,20)	0.5134
Obs* R Square	15.18329	Prob. Chi- Square	0.4383
Scaled explained SS	3.370727	Prob. Chi- Square (15)	0.9992

Source: Author Compilation

Chi-square value of 0.4383 is above. Hence, there is no problem of heteroskedasticity in the regression analysis model. The null hypothesis is accepted.

Table 6.18: Multicollinearity Test: Impact of group performance on access to formal savings by savings groups

Variable	Coefficient Variance	Variance Inflation Factor (VIF)
AVSAVPERM	0.0138	7.591
ROS	0.205	2.575
GDP	1.61	3.555
BBRANCH	0.823	2.364
BANKCONC	0.043	2.548
BORRC	0.002	2.649
MMACC	0.017136	1.919
MPSEND	0.112	1.83
DCREDIT	0.0705	1.608
DRATE	0.0626	1.847
ATM	0.0424	2.126
FEMAL	0.06	1.636
AVMEMB	0.595	2.607
AVLNOGP	0.000161	8.855
MLNOUT	0.0276	2.606

Source: Author Compilation

The Variance Inflation Factors for all the independent variables are less than 10, and therefore, there is no problem of multicollinearity among the independent variables in the OLS regression model.

The following is the Ramsey RESET test for the omitted variables.

Null Hypothesis: There are no omitted variables in the model.

Alternative hypothesis: There are omitted variables in the regression model.

Reject the null hypothesis if the P- value of F-statistic for Ramsey RESET test is less than 0.05.

Table 6.19: Ramsey RESET Test: Omitted Variable Test

	Value	Df	Probability
t statistic	0.855143	19	0.4031
F-statistic	0.731269	(1,19)	0.4031
Likelihood ratio	1.359563	1	0.2436

Source: Author Compilation

The P- value of F-statistic for Ramsey RESET test is 0.4031 and is above 0.05. The null hypothesis that there are no omitted variables is not rejected. Therefore, the regression model for the impact of group financial performance on access to formal savings has no omitted variables and is correctly specified.

Table 6.20: OLS Regression Analysis Results: Impact of group performance on access to formal savings by savings groups

Dependent Variable	ACCOWN			
Number of observations	36			
Variable	Coefficients	Std. Error	t-Statistic	Prob.
C	89.49827	33.16565	2.698523	0.0138
AVSAVPERM	-0.296717	0.117346	-2.528566	0.0200*
ROS	0.586067	0.453284	1.292936	0.2108
GDP	-0.006766	0.004012	-1.686482	0.1072
BBRANCH	1.112881	0.907052	1.226920	0.2341
BANKCONC	-0.493015	0.206949	-2.382301	0.0272*
BORRC	-0.141809	0.045182	-3.097491	0.0057*
MMACC	0.239086	0.130905	1.826410	0.0828
MPSEND	0.787260	0.335358	2.347521	0.0293*
DCREDIT	-0.624760	0.265529	-2.352886	0.0290*
DRATE	0.047129	0.250195	0.188370	0.8525
ATM	0.141487	0.205975	0.686916	0.5000
FEMAL	0.266618	0.244951	1.088453	0.2893
AVMEMB	-1.975684	0.771429	-2.561071	0.0186*
AVLNOGP	0.036132	0.012687	2.847979	0.0099*
MLNOUT	-0.294303	0.166063	-1.772237	0.0916
R Square	0.617002		Mean dependent var	27.90528

Adjusted R Square	0.329754		S.D dependent var	11.97161
S.E of regression	9.800990		Akaike info Criterion	7.703946
Sum Squared resid	1921.188		Schwarz Criterion	8.407732
Log likelihood	-122.6710		Hannan-Quinn Criter	8.407732
F- Statistic	2.147974		Durbin Watson Stat	2.097642
Prob (F-Statistic)	0.055582			

Source: Author Compilation

The Durbin-Watson value of 2.097642 is within the range of 1.5 and 2.5, meaning that there is no problem of serial correlation in the regression analysis model. The p value of the F- statistic is 0.055582 and is less than 0.1 indicates that the regression model fits the data at 10% significance level.

The coefficient of determination (R-squared) is 0.617002; this indicates that about 61.7 % of bank accounts per 1000 adults are influenced by the independent variables. Apart from average savings per member, bank concentration, number of borrowers from the commercial banks per 1000 adults, mobile phones used to send money, domestic credit from the financial sector (% GDP), average number of members per group and average loan outstanding per group, the rest of the independent variables have statistically insignificant impact on access to formal savings by the savings groups.

Average savings per member, with a coefficient of -0.296717 and a p- value of 0.0200 has a negative and statistically significant impact on access to formal savings by the savings groups. This might be due to low financial literacy which makes savings group not aware of some of the banking products leading to lack of access to mainstream banking products. Low levels of branch network, where savings group are forced to travel long distances to the nearest branches discourages savings group from opening bank accounts.

Bank concentration, with a coefficient of -0.493015 and p- value of 0.0272 has a negative and statistically significant impact on access to formal savings by the savings groups. This might be due to the fact that high bank concentration implies limited

competition in the banking sector which may discourage savings groups from opening bank accounts and savings in formal banking institutions.

Number of borrowers from the commercial banks per 1000 adults, with a coefficient of -0.141809 and a p- value of 0.0057 has a negative and statistically significant impact on access to formal savings by the savings groups. This may be due to low levels of financial literacy which makes savings groups unaware of the formal savings products.

Mobile phones used to send money, with a coefficient of 0.787260 and a p- value of 0.0293 has a positive and statistically significant impact on access to formal savings by savings groups. Mobile phones have been used as a method of using mobile money services and mobile banking which allows people to open bank account and transfer their funds online. Domestic credit from the financial sector (% GDP), with a coefficient of -0.624760 and p value of 0.290 has a negative and statistically significant impact on access to formal savings by the savings groups. Average number of members per group, with a coefficient of -1.975684 and a p- value of 0.0186 has a negative and significant impact on access to formal savings by the savings groups. This is because large groups are difficult to manage and this destroys group dynamics and create free rider problem, leading unwillingness to link with formal banking.

Average loans outstanding per group, with a coefficient of 0.036132 and a p- value of 0.0099 have a positive and significant impact on access to formal savings by the savings groups. Average loans outstanding per group reflect loan demand from the group. When average loan outstanding per group increases, it might imply that the internal demand for the loans in the group might exceed the loan supply leading to the need for external capital such as bank loans. This encourages the group to open a bank account and save in formal banking institutions with the hope of accessing bank loans in the future.

Gross Domestic Product per capita and percentage of members with outstanding loans have a negative and insignificant impact on access to formal savings by the savings groups. Return on Savings, bank branch network, mobile money account ownership, deposit interest rate, number of automated teller machines and percentage of female members per group has a positive and insignificant impact on access to formal savings by the savings groups.

$$BORRC = \alpha + \beta_1(AVSAVPERM) + \beta_2(ROS) + \beta_3(GDP) + \beta_4(INFL) + \beta_5(BBRANCH) + \beta_6(BANKCONC) + \beta_7(ACCOWN) + \beta_8(MMACC) + \beta_9(MPSEND) + \beta_{10}(DCREDIT) + \beta_{11}(LR) + \beta_{12}(ATM) + \beta_{13}(FEMAL) + \beta_{14}(AVMEMB) + \beta_{15}(AVLNOPG) + \beta_{16}(MLNOUT) + \varepsilon \dots \dots \dots \text{equation 4}$$

The table below explains the abbreviations for the variables used in the regression analysis model for the impact of group performance on access to formal credit.

Table 6.21: Explanation of Abbreviations for Variables

ABBREVIATIONS	EXPLANATION OF ABBREVIATIONS
BORRC	Number of borrowers from commercial bans per 1000 adults.
AVSAVPERM	Average savings per member
ROS	Return on Savings
GDP	Gross Domestic Product per capita
INFL	Inflation rate
BBRANCH	Number of bank branches per 100, 000 adults
BANKCONC	Bank concentration
ACCOWN	Account ownership (% 15 years +)
MMACC	Mobile money account ownership (% 15 years +)
MPSEND	Mobile phone used to send money
DCREDIT	Domestic credit from the financial sector (% GDP)
LR	Lending interest rates
ATM	Number of Automated Teller Machines per 100, 000 adults
FEMAL	Percentage of female members per group
AVMEMB	Average number of members per group
AVLNOPG	Average loan outstanding per group
MLNOUT	Percentage of members with outstanding loans

Source: Author Compilation

In order to adhere to the assumptions of the Ordinary Least Square regression analysis, tests for heteroskedasticity, multicollinearity and serial correlation (Durbin-Watson) were carried out as follows.

Test for Heteroskedasticity: Impact of group performance on access to formal credit

H0: The variances are constant in savings groups–formal credit linkage model.

H1: The variances are not constant in savings groups – formal credit linkage model

Reject the null hypothesis if the Chi-Square in the Breusch –Pagan value is above 0.05.

Table 6.22: Results for Test for Heteroskedasticity: Impact of group performance on access to formal credit

F- Statistic	1.918683	Prob. F (16,19)	0.088
Obs* R- Square	22.23713	Prob. Chi Squared (16)	0.1357
Scaled explained SS	5.079087	Prob. Chi-Squared	0.9953

Source: Author Compilation

Chi-square value of 0.1357 is above 0.05. Hence, the null hypothesis is accepted. The variances are constant, and there is no heteroskedasticity in the model.

Table 6.23: Multicollinearity Test: Impact of group performance on access to formal credit

Variables	Coefficient Variance	Variance Inflation Factor (VIF)
AVSAVPERM	0.252	8.25
ROS	3.167	2.358
GDP	0.000242	3.182
INFL	8.867	1.9733
BBRANCH	13.138	2.243
BANKCONC	0.600	2.121

ACCOWN	0.651	2.020
MMACC	0.230	1.533
MPSEND	1.962	1.898
DCREDIT	1.710	2.318
LR	0.124	2.023
ATM	0.736	2.192
FEMAL	0.989	1.602
AVMEMB	10.373	2.70
AVLNOGP	0.003	9.914
MLNOUT	0.510	2.865

Source: Author Compilation

All the independent variables have Centred Variance Inflation Factors (VIFs) which are less than 10. This implies that there is no multicollinearity among the independent variables.

The following is the Ramsey RESET test for the omitted variables.

Null Hypothesis: There are no omitted variables in the model.

Alternative hypothesis: There are omitted variables in the regression model.

Reject the null hypothesis if the P- value of F-statistic for the Ramsey RESET test is less than 0.05.

6.24 Ramsey RESET Test: Omitted Variable Test

	Value	Df	Probability
t-statistic	5.654981	18	0.0000
F-statistic	31.97661	(1, 18)	0.0000
Likelihood ratio	36.76418	1	0.0000

Source: Author Compilation

The P- value of F-statistic for Ramsey RESET test is 0.000 and is below 0.05. The null hypothesis that there are no omitted variables is rejected. Therefore, the regression

model for the impact of group performance on access to formal credit by has omitted variables. This also implies that the model is not well specified and there might be non-linear relationship among the variables. The study tried to resolve this problem by adding more control variables. However, there was no change in the outcome. The omitted variables that might have an impact on the model might lie outside the dataset that the researcher was able to access and use. Therefore, the OLS regression model could not be discarded because the failure of the omitted variable test may be because of the variable which affect access to formal credit that were beyond the access of the researcher.

Table 6.25: Regression Results: Impact of savings group performance on access to formal credit by savings groups

Dependent Variable	BORRC			
Number of observations	36			
Variables	Coefficient	Std. Error	t-Statistic	Prob.
C	351.9401	131.3094	2.680236	0.0148
AVSAVPERM	-1.122252	0.501842	-2.236266	0.0375
ROS	2.711806	1.779605	1.523825	0.1440
GDP	-0.0306337	0.015570	1.967779	0.0639
INFL	0.001627	0.002945	0.552470	0.5871
BBRANCH	5.120394	3.624703	1.412638	0.1739
BANKCONC	-3.107926	0.774680	-4.011882	0.0007
ACCOWN	-2.141363	0.806912	-2.653776	0.0157
MMACC	1.507794	0.479979	3.141377	0.0054
MPSEND	2.790715	1.400938	1.992033	0.0609
DCREDIT	-0.89665	1.307808	-0.685613	0.5012
LR	-0.098338	0.351583	-0.279701	0.7827
ATM	0.639313	0.858084	0.745047	0.4654
FEMAL	1.465922	0.994422	1.474146	0.1568
AVMEMB	-9.118844	3.220769	-2.831263	0.0107
AVLNOPG	0.134458	0.055069	2.441655	0.0246
MLNOUT	-1.098374	0.714297	-1.537700	0.1406
R- Squared	0.747031		Mean dependent var	49.42028
Adjusted R- Squared	0.534005		S.D. dependent var	59.90049

S.E. of regression	40.20772		Akaike info Criterion	10.53436
Sum Squared resid	30716.56		Schwarz Criterion	11.27913
Log likelihood	-172.5645		Hannan-Quinn Citer	10.79235
F- Statistic	3.506759		Durbin Watson Stat	2.436477
Prob (F-Statistic)	0.005281			

Source: Author Compilation

The Durbin-Watson value of 2.436477 is within the range of 1.5 to 2.5, implying that there is no problem of autocorrelation. The R-squared (coefficient of determination) is 0.747. This implies that 74.7 % of borrowers from the commercial banks per 1000 adults are explained by the independent variables. The p- value for the F- statistic is 0.0052181 and is less than 0.05. This indicates that there is enough evidence to conclude that the regression model fit the data better than a model without independent variables.

Apart from average savings per member, account ownership, bank concentration ownership of mobile money account, average number of members and average loan outstanding per group, the rest of the independent variables have statistically insignificant impact on access to formal credit by savings groups.

Average savings per member, with a coefficient of -1.1222 and a p- value of 0.0375, has a negative and significant impact on the number of borrowers from the commercial banks per 1000 adults. This is because of low financial literacy which make savings groups members not aware of the financial products. Low branch network penetration and strict lending terms also discourage savings groups from accessing formal credit.

Bank concentration, with a p-value of 0.0007 and a coefficient of -3.1079, has a negative and significant impact on number of borrowers per 1000 adults (access to formal credit). This is because an increase in bank concentration reduces competition in the banking sector which culminates in exploitative relationship between the bank and its customers; this may discourage the grass roots community based financial organisations (given their low socio- economic status) from accessing formal credit. Ownership of mobile money accounts with a p- value of 0.0054 and a coefficient of

1.507 has a positive and significant impact on access to formal credit. Ownership of mobile money account implies that people have financial history through the financial transactions in the mobile money accounts. The history of financial transactions can be used by formal banking institutions as a basis of giving loans to people. All the group financial performance indicators namely return on Savings and fund utilisation rate have a weak impact on access to formal credit by groups. The implication is that access to formal credit to a greater extent determine by completion in the banking sector (bank concentration) and outreach from fintech such as mobile money operators (ownership of mobile money accounts) than group financial performance.

Formal banking account ownership, with a p- value of 0.0157 and coefficient of - 2.141363, has a negative and statistically significant impact on the number of borrowers from the commercial banks per 1000 adults. This may be as a result of lack of financial literacy which makes savings group members unaware of different bank credit products.

Average number of members per group with a p- value of 0.0107 and a coefficient of -9.12, has a negative and statistically significant impact on the number of borrowers from the commercial banks per 1000 adults. Large groups are difficult to manage and can suffer from lack of group cohesion. Large groups can suffer from free rider effect, where members may default on loan repayment. This discourages their access to formal credit.

Average loan outstanding per group with a p- value of 0.0245 and a coefficient of 0.1345, has a positive and statistically significant impact on the number of borrowers from the commercial banks per 1000 adults. The average loans outstanding per group is a reflection of the internal loan demands by the members. When the average loans outstanding per group increase, the implication is that the internal loan demand for the group is higher and therefore there will be need for the group to access external capital from banks.

6.8 IMPACT OF BANK-SPECIFIC FACTORS ON ACCESS TO FORMAL BANKING BY SAVINGS GROUPS

The study uses the OLS regression to ascertain the impact of bank-specific factors on access to formal banking by the savings groups. The impact of bank-specific factors on average savings per member and average loan size per member is evaluated. The

following OLS regression model is on the impact of bank-specific factors on groups' savings.

$$\begin{aligned}
 AVSAVPERM = & \alpha + \beta_1(MMACC) + \beta_2(MPSEND) + \beta_3(BANKCONC) + \beta_4(BBRANCH) \\
 & + \beta_5(DRATE) + \beta_6(LR) + \beta_7(DCREDIT) + \beta_8(ATM) + \beta_9(BORRC) \\
 & + \beta_{10}(FEMAL) + \beta_{11}(AVMEMB) + \beta_{12}(AVLNOUT) + \beta_{13}(MLNOUT) \\
 & + \beta_{14}(GDP) + \beta_{15}(INFL) \\
 & + \varepsilon \dots \dots \dots \text{Equation 5}
 \end{aligned}$$

The following table explains the abbreviations for the variables for OLS regression model is on the impact of bank-specific factors on groups' savings.

Table 6.26: Explanation of Abbreviations for Variables

ABBREVIATIONS	EXPLANATION OF ABBREVIATIONS
AVSAVPERM	Average savings per member
MMACC	Mobile money account ownership (% 15 years +)
MPSEND	Mobile phone to send money
BANKCONC	Bank concentration
BBRANCH	Number of bank branches per 100, 000 adults
DRATE	Deposit interest rates
LR	Lending interest rates
DCREDIT	Domestic credit from the financial sector (% GDP)
ATM	Number of ATMs per 100, 000 adults
BORRC	Number of borrowers from the commercial banks per 1000 adults
FEMAL	Percentage of female members per group
AVMEMB	Average savings per member
AVLNOUT	Average loan outstanding per group
MLNOUT	Percentage of members with outstanding loans
GDP	Gross Domestic Product per capita
INFL	Inflation rate

Source: Author Compilation

Test for Heteroskedasticity: Impact of bank-specific factors on groups' savings

H0: There is no heteroskedasticity.

H1: There is heteroskedasticity

Reject the null hypothesis if the Chi-square in the Breusch Pagan Godfrey test is above 0.05.

Table 6.27: Heteroskedasticity Test Results: Impact of bank-specific factors on groups' savings

F- Statistic	0.393027	Pro. F (15, 20)	0.9650
Obs*R- squared	8.195836	Prob. Chi- Square (15)	0.9157
Scaled explained SS	9.316317	Prob. Chi- Square (15)	0.8604

Source: Author Compilation

Chi-square of 0.9157 implies that there is no problem of heteroskedasticity in the regression model.

Table 6.28: Multicollinearity test for the impact of bank-specific factors on groups' savings

Variable	Coefficient of Variation	Variance Inflation Factors
MMACC	0.067	2.1243
MPSEND	0.352	1.614
BANKCONC	0.187	3.136
BBRANCH	2.576	2.085
DRATE	0.225	1.872
LR	0.025	1.944
DCREDIT	0.246	1.582
ATM	0.158	2.225
BORRC	0.0072	2.573
FEMAL	0.220	1.690
AVMEMB	2.893	3.569
AVLNOUT	0.00012	1.862
MLNOUT	0.058	1.541
GDP	6.10	3.797
INFL	1.91	2.057

Source: Author Compilation

The Variance Inflation Factors for all the independent variables are less than 10. This implies that there is no problem of multicollinearity among the independent variables in the regression analysis model.

The following is the Ramsey RESET test for the omitted variables.

Null Hypothesis: There are no omitted variables in the model.

Alternative hypothesis: There are omitted variables in the regression model.

Reject the null hypothesis if the P- value of F-statistic for Ramsey RESET test is less than 0.05.

Table 6.29: Ramsey RESET Test: Omitted Variable Test

	Value	Df	Probability
t-statistic	0.493134	19	0.6276
F-Statistic	0.243181	(1, 19)	0.6276
Likelihood ratio	0.457840	1	0.4986

Source: Author Compilation

The P- value of F-statistic for Ramsey RESET test is 0.6276 and is above 0.05. The null hypothesis that there are no omitted variables is not rejected. Therefore, the regression model for the impact of bank specific factors on average savings per member has no omitted variables and is correctly specified.

Table 6.30: Ordinary Least Squares Regression Results: Impact of bank-specific factors on savings groups' savings

Dependent Variable	AVSAVPERM			
Number of observations	36			
Variable	Coefficients	Std. Error	t-Statistic	Prob.
C	-3.616097	64.84198	-0.055768	0.9561
MMACC	0.133967	0.259533	0.516184	0.6114
MPSEND	0.284608	0.593459	0.479575	0.6367
BANKCONC	0.219111	0.432658	0.506429	0.6181
BBRANCH	-0.967034	1.604961	-0.602528	0.5536
DRATE	0.172743	0.474718	0.363887	0.7198
LR	-0.116207	0.158325	-0.733975	0.4715
DCREDIT	0.923434	0.496339	1.860491	0.0776
ATM	0.020732	0.397047	0.052215	0.9589
BORRC	-0.092233	0.085021	-1.084824	0.2909
FEMAL	0.085661	0.469279	0.182537	0.8570
AVMEMB	-1.106215	1.700981	-0.650340	0.5229
AVLNOUT	0.0095175	0.010962	8.682282	0.0000
MLNOUT	-0.622539	0.240633	-2.587083	0.0176
GDP	-0.002895	0.007813	-0.370496	0.7149
INFL	-0.000880	0.001381	-0.637206	0.5312
R- Squared	0.871169		Mean dependent Var	30.58333
Adjusted R- Squared	0.774545		S. D dependent var	38.89721
S.E regression	18.46921		Akaike info criterion	8.971190
Sum Squared resid	6822.238		Schwarz Criterion	9.674976
Log likelihood	-145.4514		Hannan-Quin Criter	9.216830
F- Statistic	9.016106		Durbin Watson Stat	1.742860
Prob (F-Statistic)	0.000007			

Source: Author Compilation

The Durbin-Watson value of 1.742860 is within the range of 1.5 and 2.5. This indicates that there is no problem of serial correlation in the regression analysis model. The

coefficient of determination (R-square) of 0.8712 indicates that about 87.12 % of the average savings per member are determined by the independent variables in the model. The p- value of the F- statistic is 0.000007, which is less than 0.05. This shows the adequacy of the regression at 5% significance level.

Average loan outstanding per group, with a p- value of 0.0000 and a coefficient of 0.0095175, has a positive and significant impact on the average savings per member. Average loan outstanding per group is a sign that the demand for loan is high. Increase in the uptake of loan result in an increase on the Return on Savings. This encourages savings group members to save more. Percentage of members with outstanding loans, with a p- value of 0.176 and a coefficient of -0.622539 has a negative and significant impact on average savings per member. This is because when many members have outstanding, the possibility of loan defaults increase, leading to the reduction in savings by the members.

Mobile money account ownership, mobile phones used to send money, bank concentration, deposit interest rates, domestic credit from the financial sector (% GDP), number of ATMs per 100, 000 adults and percentage of female members per group have positive and insignificant impact on average savings per member. Number of bank branches per 1000 adults, lending interest rates, number of borrowers from the commercial banks per 1000 adults, average number of members per group, Gross Domestic Product per capita and inflation rate have a negative and insignificant impact on average savings per member.

The following OLS regression model shows the impact of bank specific factors on average loan size per member.

$$\begin{aligned}
 AVLSPM = & \alpha + \beta_1(MMACC) + \beta_2(MPSEND) + \beta_3(BANKCONC) + \beta_5(BBRANCH) \\
 & + \beta_6(ACCOWN) + \beta_7(LR) + \beta_8(DCREDIT) + \beta_7(LR) + \beta_8(ATM) \\
 & + \beta_9(BORRC) + \beta_{10}(FEMAL) + \beta_{11}(AVMEMB) + \beta_{12}(GDP) \\
 & + \beta_{13}(INFL) \\
 & + \varepsilon \dots \dots \dots \text{equation 6}
 \end{aligned}$$

The following Table shows the explanation of the abbreviations for the variables for the OLS regression model on the impact of bank specific factors on average loan size per member.

Table 6.31: Explanation of Abbreviations for the Variables

ABBREVIATIONS	EXPLANATION OF ABBREVIATIONS
AVLSPM	Average loan size per member
MMACC	Mobile money account ownership (% 15 years +)
MPSEND	Mobile phone used to send money
BANKCONC	Bank concentration
BBRANCH	Number of bank branches per 100, 000 adults
ACCOWN	Account ownership (% 15 years +)
LR	Lending interest rates
DCREDIT	Domestic credit from the financial sector (% GDP)
ATM	Number of ATMs per 100, 000 adults
BORRC	Number of borrowers from the commercial banks per 1000 adults
FEMAL	Percentage of female members per group
AVMEMB	Average number of members per group
MLNOUT	Percentage of members with outstanding loans
AVSAVPERM	Average savings per member
GDP	Gross Domestic Product per capita
INFL	Inflation rate

Source: Author Compilation

Breusch Pagan Godfrey Heteroskedasticity Test: Impact of bank-specific factors on average loan size per group member

H0: There is no heteroskedasticity.

H1: There is heteroskedasticity

Reject the null hypothesis if the Chi-Square in the Breusch Pagan Godfrey value is above 0.05.

Table 6.32: Breusch Pagan Godfrey Heteroskedasticity Test: Impact of bank-specific factors on average loan size per group member

F-Statistic	1.694539	Pro. F (15, 20)	0.1342
Obs* R Squared	20.14728	Prob. Chi-Square (15)	0.1664
Scaled explained SS	37.85514	Prob. Chi-Square (15)	0.0009

Source: Author Compilation

The Chi Square is 0.1664; it implies that there is no problem of heteroskedasticity in the regression model.

Table 6.33: Multicollinearity Test: Impact of bank-specific factors on average loan size per member

Variable	Coefficient Variance	Variance Inflation Factor (VIF)
MMACC	0.193	2.2499
MPSEND	1.133	1.92
BANKCONC	0.550	3.411
BBRANCH	6.714	2.0096
ACCOWN	0.362	1.971
LR	0.0697	1.998
DCREDIT	0.941	2.237
ATM	0.427	2.229
BORRC	0.028	2.883
FEMAL	0.617	1.751
AVMEMB	6.095	2.780
MLNOUT	0.133	2.883
AVSAVPERM	0.028	1.623
GDP	0.00015	3.446

INFL	4.60	1.834
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Source: Author Compilation

The Variance Inflation Factors (VIFs) for all the independent variables are less than 10. This implies that there is no problem of multicollinearity among the independent variables.

The following is the Ramsey RESET test for the omitted variables.

Null Hypothesis: There are no omitted variables in the model.

Alternative hypothesis: There are omitted variables in the regression model.

Reject the null hypothesis if the P- value of F-statistic for Ramsey RESET test is less than 0.05.

Table 6.34: Ramsey RESET Test: Omitted Variable Test

	Value	Df	Probability
t- statistic	7.104624	19	0.0000
F- Statistic	50.47568	(1, 19)	0.0000
Likelihood ratio	46.67536	1	0.0000

Source: Author Compilation

The P- value of F-statistic for Ramsey RESET test is 0.000 and is below 0.05. The null hypothesis that there are no omitted variables is rejected. Therefore, the regression model for the impact of bank specific factors on average loan size per member has omitted variables and is correctly specified. The researcher added other control variable and there was no change in the outcome. The study cannot discard the OLS model because of the factor that the omitted variables that are very important for the model are beyond the secondary data that this study accessed.

Table 6.35: Ordinary Least Squares Regression Results: Impact of bank-specific factors on average loan size per group member

Dependent Variable	AVLSPM			
Number of observations	36			
Variable	Coefficient	Std. Error	t. Statistic	Prob.
C	-57.40699	100.7882	-0.569580	0.5753
MMACC	-0.061576	0.439191	-0.140202	0.8899
MPSEND	-0.826808	1.064477	-0.776727	0.4464
BANKCONC	0.188620	0.741901	0.254239	0.8019
BBRANCH	1.848219	2.591219	0.713263	0.4839
ACCOWN	0.752573	0.601925	1.250277	0.2256
LR	-0.016882	0.263928	-0.063964	0.9496
DCREDIT	0.714265	0.970235	0.736177	0.4702
ATM	-0.010836	0.653573	-0.015356	0.9879
BORRC	0.103912	0.147985	0.702181	0.4907
FEMAL	-0.049698	0.785230	-0.063291	0.9502
AVMEMB	0.001881	2.468797	0.000762	0.9994
MLNOUT	0.252660	0.364451	0.693261	0.4961
AVSAVPERM	1.177804	0.18387	6.994611	0.0000
GDP	0.007323	0.012239	0.598331	0.5563
INFL	0.001583	0.002144	0.738114	0.4690
R Squared	0.831925		Mean Dependent Var	42.52778
Adjusted R Squared	0.705869		S.D. dependent Var	55.9977
SE of regression	39.36971		Akaike info Criterion	9.965871
Sum Squared residue	18446.38		Schwarz Criterion	10.66966
			Hannan- Quin Criter	10.21151
F- Statistic	6.599639		Durbin Watson Stat	2.468603
Prob (F- Statistic)	0.000078			

Source: Author Compilation

The Durbin-Watson value of 2.468603 is within the range of 1.5 and 2.5. This implies that there is no problem of serial correlation in the regression analysis model. The

coefficient of determination (R Square) of 0.8319 implies that about 83.19% of the average loan size per group member is determined by the independent variables. The p-value for the F-statistic is 0.000078; at 5% level of significance this indicates that there is enough evidence to conclude that the regression model fits the data better than a model without independent variables.

Average savings per member, with a p-value of 0.000 and coefficient 1.177804, has a positive and statistically significant impact on average loan size per member. When average savings per member increase, the loanable funds increase and this results in the increase in the average loan size per member.

Apart from average savings per member, all the independent variables are statistically insignificant in explaining the average loan size per member, as they have p-values above 0.05. Bank branch network, bank concentration, ownership of mobile money account and domestic credit from the financial sector (% GDP) has a positive and insignificant impact on average loan size per member. Deposit interest rate and inflation rate have a negative and insignificant impact on average loan size per member.

6.9 CONCLUSION

This chapter presented the findings of savings groups and formal banking linkages in SSA countries. The findings were based on the impact of savings groups' composition and status, performance and bank-specific factors on access to formal banking. Both the savings and credit linkages were evaluated using the Ordinary Least Squares Regression Analysis. On aggregate, indicators of savings groups' composition and status, and performance of savings groups show a minimal impact on accessing formal banking services. Bank-specific factors fail to explain a significant portion of average savings per group member and the average loan size per group member. Consequently, the research hypotheses are not accepted. Chapter seven closes the study with a discussion of the results.

CHAPTER SEVEN

EMPIRICAL FINDINGS AND DISCUSSION

7.1 INTRODUCTION

This chapter discusses the findings and integrates them with the literature. First, the descriptive statistics are discussed. Second, inferential statistics are discussed. The discussion fulfils the research objectives and questions of the study. The hypotheses were also examined. This was ended with a conclusion.

7.2 DISCUSSION OF DESCRIPTIVE STATISTICS

The descriptive statistics reveal a return on asset of 11% for the savings group, which is the same as the global average but less than the continental (African) average of 12%. The low return might be due to limited assets and profitability in the savings groups due to high loan defaults and depressed savings, leading to lower returns on savings. The findings also reveal an average return on savings of 14.34% for the savings groups, which is less than the continental (African) average of 16% and the global average of 15%. This might be due to the low fund utilisation of 50%, which is less than the global average of 55%. However, lower interest rates charged on the loan can also explain the low return.

According to various scholars such as Burlando et al. (2020), Mersland et al. (2019) and Nakato (2021), savings groups are formed by self-selected members. These members know each other and therefore they mutually agree on lending rates that they can afford. Burlando et al. (2020) further note that most of the savings groups in SSA countries are composed of members of the same economic status. Therefore, return on savings might be informed by the low lending rate that the savings groups charge the members. The variation of lending and savings along the group cycle might also inform variations in the return on savings. The fact that the members are self-selected and agree on the lending rate might push the lending rates downwards to

accommodate the ultra-poor members, and this might result in lower returns on savings in savings groups in SSA countries than the continental and global average.

The study reveals an average fund utilisation rate of 50% for the savings groups, which falls below the continental and global average of 58% and 55% respectively. The extent to which savings groups in developing SSA countries convert savings into loans is lower than the continental and global averages. This arises from a high desire to save rather than to borrow, and also a lack of financial literacy. Low levels of financial literacy diminish fund utilisation.

The descriptive statistics reveal that the percentage of female members (79%) is greater than the global and continental average (78%). The study also reveals a low percentage of male members in savings groups (22%). This may be because social factors might discourage men from participating in savings groups. Males are believed to have more access to formal banking as compared to women. Makina (2019) opines that the majority of those who are financially excluded in Africa are women. High percentages of female membership in the group may be a result of failure by females to access formal banking in Africa. Females are forced to participate in savings groups so that they have access to formal banking. The study confirms the findings of CARE (2016), Mersland et al. (2019), Nakato (2021) and SEEP Network (2018), who report that savings groups are mainly composed of female members because many NGOs formed savings groups targeting women.

Descriptive statistics also reveal that the loan outstanding per member in SSA countries is US\$355.65. This is greater than the continental (African) average of US\$354.92 and less than the global average of US\$373.77. This might be due to limited savings, which depress the loanable funds and lead to low levels of loans outstanding per member. The study also reveals that the average loan size per member of US\$42.53. This is above the continental (African) average of US\$42 and the global average of US\$47. This might be due to the low savings, which results in savings groups using credit rationing strategies so as to manage the group loan portfolio. The study further reports average savings per group of US\$30.58 and average percentage of members with outstanding loans of 35.92%. The descriptive statistics reveal that the average lending interest rate is 28.15% and the deposit interest rate of 17.45% in SSA countries.

The study reveals a very high bank concentration of 75.12 % in SSA countries. This implies that the banking sectors in SSA countries are mainly dominated by a few banks and with a low level of competition in the sector. This is in line with Ahmad and Amjad (2024), who opine that bank concentration examines the assets of the three largest commercial banks as a percentage of the total assets of the commercial banks in the sector. They used the banking data from Bankscope and Orbis. When there is less bank concentration, financial inclusion is promoted, and this might enable savings group members to improve their savings. High bank concentration implies that the banking sector is controlled by few large. The implication is that competition in the bank sector is limited. Large banks which dominate the banking sector might come up with exploitative marketing mix strategies in terms of product design, pricing of the financial products, promotional campaigns and distribution channels.

Given that the majority of the savings groups are composed of members from low – economic status, the linkages may be hindered if the savings groups feel that they are being exploited by formal banking Institutions. High bank concentration is signal lack of openness in the banking sector and hindrance of the new entrants. This might as well limit product offerings and diversity, leading to lack of products that are designed to meet the needs of those at the bottom of the pyramid. The formal banking institutions, where there is lack of competition tend to provide what they have not what is needed by the clients. Therefore, the marketing mix strategies employed under condition of high bank concentration may not favour the savings groups, compromising of savings groups – formal banking linkages. Where there is high bank concentration or limited banking sector competition, the capability theory may fail to hold. Since few and large banks will be controlling the sector, lack of product diversity may imply that the banks fail to bring the best out of the capabilities of the savings groups. The ability of the savings group to improve well-being under conditions of high bank concentration is compromised. High bank concentration may result in savings group linkages that may fail to benefit the savings groups or that fail to make the best out of the capabilities of savings groups.

Where there is high bank concentration, the banks may apply the institutionalist approach where the banking institutions are concerned with profitability and sustainability, not the needs of clients such as savings groups. This is in line with the study by Burlando et al. (2020) based on the Opportunity Bank of Uganda, where

banks provided loans to the groups that had good performance in terms of the precious share out. Under the conditions of high bank concentration, minimalist approach to financial access might be practiced. This when formal banking institutions, because of their motive for profitability, they may offer banking products only and fail to provide the complimentary non-financial products such as (training and education). The implication is that formal banking institutions might fail to derive the best out of the capabilities of savings group (capability theory). Only savings groups composed of entrepreneurial poor members gain more than the savings groups composed of the core poor members. Afonso and Arana (2024) conducted a study on the extent to which financial inclusion enhances per capita income in the Least Developed countries. The authors used panel data of the Least Developed Countries from 1990 to 2021. They found that financial inclusion dimensions such as concentration and accessibility affect the economy more than financial inclusion dimensions such as usability and availability in LDCs.

The study reveals that the distribution of ATMS is 8.75 ATMs per 100, 000 adults in SSA countries. This might be as a result of poor formal banking infrastructure in SSA countries, hindering bank penetration, leading to limited access to formal banking. The study also reveals a low number of ATMs per 100, 000 adults of 8.75 ATMs per 100, 000 adults. This implies that people are forced to join long queues and take longer to access financial services through ATMs. The descriptive statistics reveal that the average mobile money accounts (% 15 years +) of 32.22%, average lending interest rates of 20.24% and average deposit interest rates 17.02 %.

7.3 IMPACT OF SAVINGS GROUPS' COMPOSITION AND STATUS ON ACCESS TO FORMAL BANKING BY THE SAVINGS GROUPS

This sub-section addresses empirical objective one, research question one and hypothesis one of this study. The results of this study indicate that average savings per member has a significant negative impact on access to formal savings. Average loan outstanding per group has significant positive impact on access to formal savings.

Average number of members per group (group size), Gross Domestic Product per capita, inflation rate, bank concentration and domestic credit from the financial sector (% GDP) have negative and insignificant impact on access to formal savings. Mobile money account ownership, bank branch network, deposit interest rates, number of

ATMs per 100, 000 adults and lending interest rates have positive and insignificant impact on access to formal savings through ownership of a bank account.

Mobile money account ownership has a positive and significant impact on access to formal credit and bank concentration has a negative and significant impact in access to formal credit by the savings groups. Average savings per member and Gross domestic Product per capita have negative and insignificant impact on access to formal credit by savings groups. Percentage of female members per group, average loan outstanding per group, inflation rate, bank branch network, lending rates, number of ATM per 100, 000 adults and domestic credit from the financial sector (% GDP).

The overall findings indicate that savings groups' composition and status have insignificant impact on access to formal banking by the group as a whole or its members. These findings are reflected in the descriptive statistics, which indicate poor performance per the ROA, ROS and low fund utilisation rate among savings groups in SSA countries. These performance indicators play a critical role in the smooth running of savings groups and pave the way for access to mainstream finance. A shift to mainstream finance, whether by an individual or a group, is underpinned by financial leverage, which is the ultimate reason for seeking formal financial instruments. People can only borrow when they have enough collateral, which, in the case of savings groups, is their savings and other financial assets. People seek savings instruments when they have money to save, which is the motivational element.

According to Hypothesis 1, the composition and status of savings groups have a significant impact on access to formal banking services by group members. Given the findings, we rejected the hypothesis.

D' Espallier et al. (2013), Mersland et al. (2019), and Nakato (2021) opine that larger groups own more assets as compared to small groups, and through that feature, they are able to attract linkages to formal banking as compared to small groups. The reasoning is that large groups are able to accumulate more savings and other assets, which can be used as collateral for formal loans or a good historical performance and sign of creditworthiness, which can make large groups more attractive to formal banking. Group assets and savings may act as collateral for accessing loans. If the group is large and is able to have more assets, it is able to borrow from formal banking institutions using its assets and savings as collateral. More accumulated savings show

that the group has money that it can use to repay loans. Thus, the evidence from Bistrate et al. (2012), D' Espallier et al. (2013), Mersland et al. (2019), and Nakato (2021) departs from the findings of this study, which reveal that group size (measured by the average group members) has an insignificant impact on access to formal banking by the savings groups.

The study, which was conducted by Mutebi et al. (2017), departs from this study in that it focused on organisational characteristics, benefits and challenges of savings groups in rural Uganda. Mutebi et al. (2017) adopted a cross-sectional descriptive study, where data were gathered using in-depth interviews, questionnaires and content analysis. Mutebi et al. (2017) argue that due to poor repayment of men, some mixed gender savings groups limit the number of male members. The authors further report that women restrict the amount of money that they lend to male members in the mixed groups. Mutebi et al. (2017) reveal that men default on loans more than women. The authors further highlight that the fund utilisation rate in savings groups might reduce as men are rationed in order to reduce poor repayment rates. The weakness of the study by Mutebi et al. (2017) is that primary data was used (interviews, questionnaires and content analysis as data collection tools) and hence the analysis relied on the views and opinions of the participants, which may be subjective. The authors did not use estimation models in order to come up with inferences. Therefore, the findings of the study may have been generalised and influenced by the views and opinions of participants. The magnitude of the impact of gender on repayment was not determined as the study was highly qualitative in nature.

Nakato (2024) investigated the influence of male membership on the income generation capacity of savings groups. Nakato (2024) departs from this study because this study used gender characteristics of the group (percentage of female members per group) as one of the independent variables for access to formal banking by the savings groups. Nakato (2023) used random effects regression as an estimation strategy, whilst this study used OLS. Nakato (2023) used secondary data of 81,853 savings groups drawn from the SAVIX database for 30 African countries covering the period 2013 to 2017. This study used cross-sectional data of 36 SSA countries as of 31 July 2024. Nakato (2024) reveals a negative relationship between male membership and the profit-generating capacity of savings groups. This implies that the inclusion of male members in the group reduces the income-generating capacity of the group.

Therefore, based on the views of D' Espallier et al. (2011), Mutebi et al. (2017), and Nakato (2024), savings groups composed of female members only perform better than those savings groups which are composed of males or mixed gender savings groups. The implication is that women are good at loan repayments, which leads to good group performance. Savings groups composed mainly of women may have good creditworthiness, which can attract linkages to formal banking. Savings groups composed mainly of women may be attractive to formal banking, given the evidence of good loan repayments. This departs from this study, which reveals that gender (percentage of male members per group) has an insignificant impact on access to formal banking by the savings groups. The capability theory opines that there is a need to understand people in terms of their capabilities so that they have the freedom to achieve well-being. Formal banking institutions should seek to understand savings groups mainly composed of men as being able to productively use financial products. Formal financial institutions should not discriminate against the savings groups based on the gender characteristics of the savings group members. In line with the tenets of capability theory, which states the need to understand the capabilities of people so that they have freedom to achieve well-being, formal financial institutions should apply an integrated approach to finance. This is whereby formal banking institutions introduce training programs targeting group members (for all gender classes) so as to cultivate good financial behaviour, which may actually link them to mainstream banking. This will improve the ability and capacity of group members to be profitable clients.

This study did not focus on a particular savings group structure. A study with a focus on VSLAs may report a strong positive relationship between VSLAs' composition and status and access to formal banking. ASCAs may also do better than ROSCAs. This is because VSLAs and ASCAs allow funds to accumulate; this might attract formal banking and result in access to formal banking by VSLAs and ASCAs. In ROSCAs, savings are given to one member at a time, and funds are not allowed to accumulate and hence, this may make ROSCAs not attractive to formal banking.

7.4 IMPACT OF SAVINGS GROUPS' PERFORMANCE ON ACCESS TO FORMAL BANKING BY THE SAVINGS GROUPS

This sub-section addresses empirical objective two, research question two and hypothesis two of this study. Per the findings, aside from bank concentration, number

of borrowers from the commercial banks per 1000 adults, mobile phone used to send money, average number of members per group, average loan outstanding per group, bank account ownership and average savings per member, the rest of the variables, that is, the groups' performance indicators and control variables were all weak in promoting access to formal banking. The descriptive statistics also support these findings. Hence, the savings groups' performance indicators are weak in promoting access to formal banking. These findings insinuate the importance of financial literacy, which boosts group members' knowledge of finance and improves their personal financial management ability, which in turn, improves fund utilisation, widening their horizon and leverage to seek formal savings and credit instruments. According to Hypothesis 2, the financial performance of the savings groups has a significant impact on access to formal banking by savings group members. From the findings, we rejected hypothesis 2.

The findings of this study depart from Isoke (n.d.), who conducted a case study on Opportunity savings solutions: expanding formal financial services to rural savings and loan groups in Uganda. This study reveals that the group performance indicators are weak in determining access to formal banking by savings groups, yet Isoke (n.d) reveal the importance of historic performance of savings groups in determining access to credit from the Opportunity Bank in Uganda. Isoke et al. (n.d.) used a case study and there was no estimation strategy that was used. This departs from this study because this study used regression analysis to evaluate the impact of savings groups' performance on access to formal banking by savings groups. The case study, which was used by Isoke (n.d.), was mainly based on one bank (Opportunity Bank Uganda Limited) and the study was based on Ugandan savings groups. According to Isoke (n.d), the groups that had low assessment scores were given a loan amounting to 50% of the previous loan share-out amount. This implies that the savings groups that had poor performance were disadvantaged by being given inadequate credit by OBUL. OBUL may have failed to address the credit needs of poorly performing savings groups. The bank (OBUL) introduced a compulsory savings, where 20% of the value of the loan was put as a security deposit. This implies that Opportunity Bank adopted a risk approach to savings groups – formal banking linkages, where it tightens credit risk management strategies so as to ensure that the savings groups can repay the loans. This implies that savings groups did not get all the credit and this might have

had a negative impact on their loan sizes and their income generation capacity. Given their socio-economic status, savings groups may not link to formal banking institutions such as OBUL that display very strict lending terms. The case of Opportunity Bank is in line with the institutionalist perspective, where financial institutions maximise profit and seek to offer terms that reduce non-performing loans and increase the institution's stability.

This study also departs from Guzman et al. (2024). Guzman et al. (2024) conducted a study on community lending with external capital: evidence from randomised evaluations in Uganda. The study was experimental in nature, yet this study is not experimental in nature. According to Guzman et al. (2024), the external capital was not from the bank but was from a private donor, who was a silent member in the group. The study by Guzman et al. (2024) used a sample of 92 savings groups in rural Uganda, in which 46 savings groups were put under treatment groups (which received external capital) and another 46 groups were put under control groups (which did not receive external capital). Guzman et al. (2024) sought to find the impact of external capital on group performance, whilst this study sought to evaluate the impact of group performance on access to external capital in the form of formal banking.

Guzman et al. (2024) report that when external capital is injected into the savings groups, members have better access to credit without compromising the functioning of the group. The authors further report that external capital has a weak effect on the quantity of savings and contributes to a high social rate of return (based on Cost-Benefit Analysis). The weakness in the study by Guzman et al. (2024) is that the external capital was provided by a private donor, who acted as a silent member of the group. Firstly, there is difficulty in ascertaining the extent to which the private donor was silent in the savings groups. Despite the fact that the donor was a silent member of the group, the fact that the donor is a member of the group might influence certain group dynamics, which might have influenced the findings of Guzman et al. (2024)'s study.

This study is a deviation from Burlando et al. (2020) and CARE (2017), which focused on the impact of savings group–formal banking linkages on savings group performance. This shows that the impact of savings group performance on formal banking is still novel. CARE (2017) report that savings group–formal banking linkages

had a significant and positive impact on return on assets for savings groups in East Kilimanjaro in Tanzania. The study by CARE (2017) was a case study based in Tanzania, and estimation models were not used to produce the results of the study.

Burlando et al. (2020) found that linkage of savings groups to formal banking had a positive impact on savings and average loan size per member. The researcher reports that the group savings increased by 13% from 2016 to 2018 in Uganda as a result of the linkage. Burlando et al. (2020) opine that the benefits to the groups as a result of the linkages were short-term in nature; in the long run, the linkages fuelled conflict and dropouts from the groups. Just like the Guzman et al. (2024), the study by Burlando et al. (2020) is experimental in nature and sought to find the impact of external capital (linkage) on savings groups' performance from Uganda. This study did not use experiments but used cross-sectional data from 36 SSA countries. Randomised control trials have a weakness in that: how long will a researcher hide from the participants the fact that some of them have been put into treatment groups or that they are under an experiment? Randomised control trials become biased when the participants know that they have been put under an experiment, and they start to adjust certain behaviours, which might compromise the results of the study.

Burlando and Canidio (2017), Ferguson and Co. (2005) and Frolich and Nguyen (2020) reveal that group performance determines the attractiveness of savings groups to formal banking. He and Yeung (2011) reveal a positive relationship between deposits and the presence of the bank branches. The authors opine that high savings improve group sustainability, and this might improve trust by the formal banking institutions. In the context of savings groups – formal banking linkages, trust theory implies that formal banking institutions and savings groups should trust each other for profitable linkages to occur. Savings groups should have sound group performance so as to be trusted by the formal banking institutions. The trust theory highlights that there is an inverse relationship between fear and trust. When formal banking institutions do not trust and are not satisfied with group performance, they develop fear that they might enter into dangerous linkages with savings groups, which may affect the performance and sustainability of the banks. Therefore, there is a need for mutual trust between savings groups and formal banking institutions.

The study did not focus on a particular savings group structure. VSLAs and ASCAs may report a strong relationship between VSLAs and ASCAs' performance and access to formal banking. This is because in VSLAs and ASCAs, when member save and have their savings loaned out, they enjoy the return on their savings. The accumulated savings themselves may also provide collateral for bank loans. The share out at the end of the cycle may be used as a basis for group performance, which can be used to access formal credit. This is also supported by Isoke et al. (n.d), who opine that Opportunity Bank in Uganda LTD used historical share-out amounts as a basis for advancing loans to savings groups. ROSCAs do not allow accumulation of funds and they do not have accumulated savings and return on savings since they do not charge interest. This may not form a strong relationship between ROSCA's performance and access to formal banking.

7.5 IMPACT OF BANK-SPECIFIC FACTORS ON ACCESS TO FORMAL BANKING

This sub-section addresses empirical objective three, research question three and hypothesis three of this study. According to the results, average loans outstanding per group positively and significantly affect average savings per member. Percentage of members with outstanding loans negatively and significantly affect average savings per member.

Bank branch network, lending interest rates, number of borrowers from the commercial banks per 1000 adults, average number of members per group, Gross Domestic Product per capita and inflation have a negative and insignificant impact on average savings per member.

Bank concentration, deposit interest rate, mobile money account ownership, mobile phones used to send money, domestic credit from the financial sector (% GDP), number of ATMs per 100, 000 adults and percentage of female members per group have a positive and insignificant impact on average savings per member.

On the credit linkage, this study reveals that average savings per member has positive and significant impact on average loan size per member. Bank concentration, bank branch network, account ownership, domestic credit from the financial sector (% GDP), number of borrowers from the commercial banks per 1000 adults, average

number of members per group, percentage of members with outstanding loans, GDP per capita and inflation rate have positive and insignificant impact on average loan size per member. Mobile money account ownership, mobile phones used to send money, lending interest rates, number of AMTs per 100, 000 adults and percentage of female members per group have negative and insignificant impact on average loan size per member.

The overall findings imply that bank-specific factors are insignificant in promoting access to formal banking by savings groups as whole and group members. Therefore, we rejected the third hypothesis, which states that “bank-specific factors have a significant impact on access to formal banking by savings group members”.

This study departs from many previous studies (Dupas and Robison, 2013a; Grohmann, 2018; Pomeroy et al., 2020) focused on the impact of bank-specific factors on financial inclusion without specifically focusing on savings groups. Dupas and Robison (2013a) found improvement in the usage of formal banking products as a result of subsidisation of the cost of access to formal banking. Subsidisation of the costs of accessing formal banking products is in line with the welfarist perceptive. Formal banking institutions that practice a welfarist approach seek to provide financial services that are affordable to their clients. The costs for accessing formal banking are kept low so that the poorest of the poor are able to access formal banking services. Given their socio-economic status, most of the savings groups in SSA countries fit well in linkages where formal banking institutions use a welfarist approach. This implies that the financial services are tailor-made to meet the needs of the savings groups, and the costs are kept very low. The formal banking institutions are concerned more with outreach than with the profitability objective.

According to Grohmann (2018) and Pomeroy et al. (20120), the branch network improves financial inclusion (however, this was on financial inclusion without specific reference to savings groups). Frolich and Nguyen (2020) reveal that long distances to bank branches cause discomfort among savings group members due to fear of travelling long distances with cash and the travelling costs involved. The findings of this study are consistent with a related study, which was conducted by Cave et al. (2022) on the relationship between bank branch competitiveness and deposit growth.

Cave et al. (2022) used annual branch-level deposit data from the Federal Deposit Insurance Corporation (FDIC) covering the period June 2001 to June 2019 and revealed a positive relationship between branch competitiveness and the growth of the deposits. This implies that if bank branches are competitive, the deposits improve. Maity and Salin (2023) conducted a study on bank branch outreach and access to banking services towards financial inclusion. The authors conducted the study in India, and they used data from the Indian Economy, RBI, covering the 12-year period from 2008-2009 to 2019 -2020. The authors reveal that in recent times ATM are preferred to bank branches and ATM growth rates are higher than the growth rate of branches. Their study also reveals that ATM and branches have a significant impact on financial inclusion. This implies that bank branches and ATM assist people in depositing and withdrawing their money. This may mean that bank branches and ATM may assist the savings groups to deposit and save their money and access credit.

This study did not focus on a particular savings group structure. A study with a focus on VSLAs may report a strong positive relationship between bank-specific factors and access to formal banking by VSLAs. VSLAs and ASCAs, by their nature they keep savings and hence they might require formal banking services such as ATMs and an extensive bank branch network. ROSCAs do not have accumulated savings, and their operations may not require formal bank and may promote formal banking institutions to expand their bank outreach to them.

7.6 CONCLUSION

This chapter discussed the results of this study based on the descriptive analyses and the OLS analyses on the impact of savings groups' composition and status, performance and bank-specific factors on access to formal banking. The descriptive statistics were consistent with the findings from the OLS analyses, which confirmed that savings groups' composition and status, performance and bank-specific factors are weak in influencing savings groups and their members to access formal banking. Following this outcome, all the research hypotheses failed to hold as stipulated. Per the primary objective of this study, this study examined savings groups-formal banking linkages.

CHAPTER EIGHT

RESEARCH SUMMARY, CONTRIBUTIONS, CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

8.1 INTRODUCTION AND RESEARCH SUMMARY

Various studies have been done on savings group–formal banking linkages, but there is inconclusive and contradictory evidence. There is little evidence on the savings groups and formal banking in developing SSA countries. The previous studies did not have clear evidence on the impact of savings groups' composition and status, performance and bank-specific factors on access to formal banking by the savings groups. The study aimed to evaluate savings groups and formal banking in developing SSA countries. This was done by focusing on the impact of savings groups' composition and status, performance and bank-specific factors on access to formal banking by the savings groups. Chapter 1 focused on the introduction and problem setting. Chapter two focused on a review of theoretical literature. Chapter three was on the review of the empirical literature. Chapter four was on the review of methodologies and approaches adopted in the previous studies. Chapter five was on the research methodology used in this study. Chapter six was on data presentation and analysis for savings groups and formal banking in developing SSA countries. Chapter seven focused on the empirical findings and discussion of the impact of savings group composition and status, performance and bank-specific factors on access to formal banking by the savings groups. Chapter eight focused on research summary, contributions, conclusions and recommendations. This chapter is organised as follows: Subsection 6.2 summarises the research findings, Section 8.2 contribution of the study, Section 8.3 concludes the study, Section 8.4 covers the limitations of the study, Section 8.5 is about the recommendations for the study, and Section 8.6 suggests areas for further study in accordance with the findings of this study.

8.2 SUMMARY OF THE RESEARCH FINDINGS

The main purpose of the study was to evaluate savings groups – formal banking linkages in SSA countries, which was done according to three research objectives (RO) as follows:

8.2.1 Research Objective 1: To evaluate the impact of savings groups’

composition and status on access to formal banking by the savings groups

The study reveals that savings groups' composition and status have an insignificant impact on access to formal banking by the group as a whole or its members. These findings are reflected in the descriptive statistics, which indicate poor performance per the ROA, ROS and low fund utilisation rate among savings groups in SSA. These performance indicators play a critical role in the smooth running of savings groups and pave the way for access to mainstream finance. According to Hypothesis 1, the composition and status of savings groups have a significant impact on access to formal banking services by group members. Given the findings, we rejected the hypothesis.

8.2.2 Research Objective 2: To determine the impact of savings group

performance on access to formal banking by savings groups in SSA countries

The study reveals that, aside from bank concentration, mobile phones used to send money, number of borrowers from the commercial banks, average number of members per group, average loans outstanding per group, average savings per member, bank account ownership and ownership of mobile money accounts, the rest of the variables, that is, the groups' performance indicators and control variables were all weak in promoting access to formal banking. The descriptive statistics also suffice for this finding. Hence, the savings groups' performance indicators are weak in promoting access to formal banking. These findings insinuate the importance of financial literacy, which boosts group members' knowledge of finance and improves their personal finance management ability, which in turn, improves fund utilisation, widening their horizon and leverage to seek formal savings and credit instruments. According to Hypothesis 2, the financial performance of the savings groups has a significant impact on access to formal banking by savings group members. From the findings, we rejected hypothesis 2.

8.2.3 Research Objective 3: To evaluate the impact of bank-specific factors on access to formal banking by savings groups in SSA countries

The study reveals that average loans outstanding per group positively and significantly affect average savings per member. Percentage of members with outstanding loans negatively and significantly affect average savings per member.

Bank branch network, lending interest rates, number of borrowers from the commercial banks per 1000 adults, average number of members per group, Gross Domestic Product per capita and inflation have a negative and insignificant impact on average savings per member.

Bank concentration, deposit interest rate, mobile money account ownership, mobile phones used to send money, domestic credit from the financial sector (% GDP), number of ATMs per 100, 000 adults and percentage of female members per group have a positive and insignificant impact on average savings per member.

On the credit linkage, this study reveals that average savings per member has positive and significant impact on average loan size per member. Bank concentration, bank branch network, account ownership, domestic credit from the financial sector (% GDP), number of borrowers from the commercial banks per 1000 adults, average number of members per group, percentage of members with outstanding loans, GDP per capita and inflation rate have positive and insignificant impact on average loan size per member. Mobile money account ownership, mobile phones used to send money, lending interest rates, number of ATMs per 100, 000 adults and percentage of female members per group have negative and insignificant impact on average loan size per member.

The overall findings imply that bank-specific factors are insignificant on access to formal banking by savings groups as a whole and group member. Therefore, we rejected the third hypothesis, which states that “bank-specific factors have a significant impact on access to formal banking by savings group members”.

8.3 CONTRIBUTION OF THE STUDY TO THE BODY OF KNOWLEDGE

The impact of savings groups' composition and status on access to formal banking is still in its infancy and has limited literature. This study adds to the literature by evaluating the impact of savings groups composition and status on access to formal banking SSA by focusing on group composition and factors such as gender (percentage of female or male members in the group), group size (average number of members per group) and using control variables such as savings status (average savings per member or average total savings per group) and percentage of members with outstanding loans and also financial inclusion indicators such as bank concentration and macroeconomic variables such as (GDP per capita).

Other studies, such as Burlando et al. (2020), Elkholf et al. (2019), Ndiege et al. (2014), Ngcobo (2024), SEEP (2017), Vandergaag et al. (2017) and Vision (2017) used savings groups' financial performance measures such as Return on Asset, Return on Savings, average savings per member, average savings per group, percentage of members with outstanding loans and average loan size per member on access to formal banking by savings groups. This study departed from other studies by using the same financial performance measures for 36 countries in SSA.

This study focused on the impact of savings groups' composition and status on access to formal banking. Many studies did not directly focus on the impact of savings group composition and status on access to formal banking. Various studies (Karlan et al, 2014; Churchill and Appau, 2020; Madni, 2019; Ozili, 2018, among others) focused on aspects of composition and status (financial education, religion, ethnic diversity, linguistic fractionalisation and culture, wealth disparity and gender) on financial inclusion, without specifically referring to savings groups. Nakato (2021) looked at the impact of group dynamics on access to formal banking. Nakato (2021) used savings group indicators such as bank balance and external debt (for savings and credit linkages) as a proxy for linkage, whilst this study used bank account ownership and number of borrowers from the commercial banks as a proxy for the linkages (both savings and credit linkages).

Furthermore, this study focused on the impact of bank-specific factors on access to formal banking by the savings groups. This study was based on the view that the manner in which bank-specific factors affect savings groups in terms of savings and

loans would determine the groups' and members' ability to access formal banking. This was a departure from other studies (Chinoda and Kwenda, 2019; Grohmann, 2018; Mossie, 2022; Panda and Misra, 2017; Pomeroy et al, 2020; and Shrestha and Nursamsu, 2020) which focused on the impact of bank-specific indicators on financial inclusion, without reference to savings groups.

8.4 CONCLUSIONS FOR THE STUDY

Based on the findings, it can be concluded that:

8.4.1 Impact of Savings Groups' Composition and Status on Access to Formal Banking by the Savings Groups

The study concludes that savings groups' composition and status have insignificant impact on access to formal banking by the group as a whole or its members.

8.4.2 Impact of Savings Groups' Performance on Access to Formal Banking by the Savings Groups

The study concludes that aside from bank concentration, the rest of the variables, that is, the groups' performance indicators and control variables, have insignificant impact on access to formal banking.

8.4.3 Impact of Bank-Specific Factors on Access to Formal Banking by the Savings Groups

The study concludes that bank-specific factors have insignificant impact on access to formal banking by savings groups as whole and group members.

8.5 LIMITATIONS OF THE STUDY

Though the study intended to examine savings groups-formal banking linkages in SSA, under normal circumstances, it is impossible to include all countries in SSA. The study included 36 SSA countries. This study is cognizant that the inclusion of other countries might have resulted in different findings. However, the socio-economic attributes of members of savings groups are similar across countries in SSA, hence mitigating this bias.

Again, some of the countries did not have complete data for the period under examination. However, to overcome the challenge of missing data, the researcher

used mean imputation methods as a way of handling missing. This was done by using the averages for the variables of countries with available data in order to fill the entries with missing data. This maintained the cross-sectional data status as at July 2024.

The data was based on a single period (cross-sectional). However, panel data might have yielded different results.

8.6 RECOMMENDATIONS FOR IMPROVEMENTS AND POLICY DEVELOPMENT

Formal financial institutions should understand the socio-economic status of savings groups. This will help formal financial institutions in coming up with the products that best serve the needs of the savings groups. It will help in promoting a situation where both savings groups and formal banking institutions benefit from the linkages.

Given the impact of mobile money account ownership on access to formal banking by savings groups. There is need for more partnership of formal banking institutions, Non-Governmental Organisations, government departments and mobile money services providers to roll out mobile money services to the savings groups. Mobile money services are affordable to savings groups and help to cut the distance to the nearest branches or geographic barriers.

Mobile money operators should establish more mobile money agents. This will enable outreach of mobile money services by the savings groups. This can be done through partnership with non-banking institutions such as fuel stations and shops. Some of the banking services can also be incorporated in organisations such as shops. This will improve access to banking services by the savings groups. On the part of banking institutions and mobile money providers, partnership with businesses such as shops would help to reduce the costs of setting up formal banking facilities.

The current study also reveals that the percentage of members with outstanding loans has a strong impact on access to formal savings. Against the backdrop, this study recommends that savings groups should be taught by financial institutions, NGOs and government agencies to manage their loan book. Proper management of the loan will enable savings groups to reduce loan defaults and be able to manage cash deficits and surpluses, which may assist them in linking to formal banking.

The current study reveals the strong impact of bank concentration on access to savings and credit in SSA countries. The study recommends that the regulators of the banking sector should allow new entrants into the banking sector. This will improve financial inclusion and access to formal banking by the savings groups. This may be done through relaxation of regulations in the financial sector. The government in SSA countries should also partner the financial institutions to come up with affordable financial products.

The governments of SSA countries should increase the branch network of state-owned banks. Owing to the fact that most state-owned banks receive grants from the governments, they can be able to open more branches by balancing profitability and financial inclusion.

Formal banking institutions and other development partners should roll out financial education and literacy programs before coming up with the products for savings groups. Financial literacy programs will enable savings groups to adopt financial behaviours that promote savings group–formal banking linkages. Financial education creates awareness of banking products, and this may encourage savings groups to adopt and use formal banking products.

The banks should heavily use online platforms to improve their distributional mix strategies. Formal financial institutions should educate those at the bottom of the pyramid on how to use the digital platforms. This might improve the perceived usefulness and ease of use of the digital platforms by those at the bottom of the pyramid. Digital banking platforms will help in providing access to formal banking in areas where formal banking institutions are not physically present. This might help in reducing the problem of high levels of bank concentration in developing SSA countries. Digital platforms help to break geographic barriers, and they do not require more strict documentation as compared to opening a bank account. Digital banking platforms, such as mobile money services, can be accessed by saving groups at minimal costs. Digital platform will reduce the cost of setting physical bank infrastructure and allow the banks to penetrate the remote areas where it is impossible to penetrate using traditional banking.

Formal banking institutions should use the existing studies to effectively communicate with the savings groups. This will enable formal banking institutions to mitigate the challenges that are faced by savings groups in linking to formal banking.

8.7 AREAS FOR FURTHERSTUDY

Studies should investigate the hesitance to incorporate formal banking in savings groups' financial structures. Subsequently, studies should focus on developing strategies that can improve the financial literacy of savings group members. The strategies should be tailored to people of low socio-economic status, like most members of savings groups across countries in SSA.

Studies should be conducted on savings groups and formal banking, focusing on other regions such as the Southern African Development Committee (SADC) countries. Country-specific studies should also be conducted on savings groups and formal banking. This is because each country is unique on its own and also has its own features, which might be different from other countries.

This study's population included all the different structures of savings groups in SSA. A different outcome might have emerged if the study had focused on a particular savings group structure like VSLA or ROSCA. Consequently, other studies should focus on particular savings group structures across SSA. The findings will enhance policy development and a better understanding of the underpinnings of limited access to formal banking by group members.

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APPENDICES

Appendix 1: Ethical Clearance



College of Economic and Management Sciences_ERC Finance, Risk Management
& Banking

Date: 07/11/2023

Dear: Mr Givemore Moyo

Ref #: 1105

Name: Mr Givemore Moyo

Student #: 17979587

**Decision: Ethics Approval from
01/11/2023 to 31/10/2028**

Researcher: Mr Givemore Moyo

12199 Pumula South

Bulawayo, Zimbabwe

17979587@mylife.unisa.ac.za +263776860303

Supervisor: Professor DANIEL MAKINA makind@unisa.ac.za

Savings groups and formal banking: Evidence from developing economies in Sub Saharan Africa.

Qualification: Doctor of Philosophy in Management Studies (90021)

Thank you for the application for research ethics clearance by the College of Economic and Management Sciences_ERC Finance, Risk Management & Banking for the above-mentioned research study Ethics approval is granted for five years.

The **negligible risk application** was **reviewed** by the College of Economic and Management Sciences_ERC Finance, Risk Management & Banking on 31/10/2023 in compliance with the Unisa Policy on Research Ethics and the Standard Operating Procedure on Research Ethics Risk Assessment.

The proposed research may now commence with the provisions that:

1. The researcher(s) will ensure that the research project adheres to the values and principles expressed in the UNISA Policy on Research Ethics.
2. Any adverse circumstance arising in the undertaking of the research project that is relevant to the ethicality of the study should be communicated in writing to the College of Economic and Management Sciences_ERC Finance, Risk Management & Banking.
3. The researcher(s) will conduct the study according to the methods and procedures set out in the approved application.
4. Any changes that can affect the study-related risks for the research participants, particularly in terms of assurances made with regards to the protection of participants' privacy and the confidentiality of the data, should be reported to the Committee in writing, accompanied by a progress report.

5. The researcher will ensure that the research project adheres to any applicable national legislation, professional codes of conduct, institutional guidelines and scientific standards relevant to the specific field of study. Adherence to the following South African legislation is important, if applicable: Protection of Personal Information Act, no 4 of 2013; Children's act no 38 of 2005 and the National Health Act, no 61 of 2003.
6. Only de-identified research data may be used for secondary research purposes in future on condition that the research objectives are similar to those of the original research. Secondary use of identifiable human research data requires additional ethics clearance.
7. No field work activities may continue after the expiry date 31/10/2028. Submission of a completed research ethics progress report will constitute an application for renewal, for Ethics Research Committee approval.

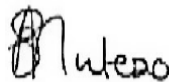
Additional Conditions

1. Disclosure of data to third parties is prohibited without explicit consent from Unisa.
2. De-identified data must be safely stored on password protected PCs.
3. Care should be taken by the researcher when publishing the results to protect the confidentiality and privacy of the university.
4. Adherence to the National Statement on Ethical Research and Publication practices, principle 7 referring to Social awareness, must be ensured: "Researchers and institutions must be sensitive to the potential impact of their research on society, marginal groups or individuals, and must consider these when weighing the benefits of the research against any harmful effects, with a view to minimising or avoiding the latter where possible." Unisa will not be liable for any failure to comply with this principle.

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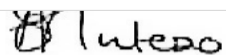
The reference number 1105 should be clearly indicated on all forms of communication with the intended research participants, as well as with the Committee.

Kind regards,



Prof A Mutezo

Chair of College of Economic and Management Sciences_ERC Finance, Risk Management & Banking



Prof A Mutezo

Chair of College of Economic and Management Sciences_ERC Finance, Risk Management & Banking

E-mail: Muteza@unisa.ac.za



Executive Dean / By delegation from the Executive Dean of College of Economic and Management Sciences_ERC Finance, Risk Management & Banking

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APPENDIX 2: Professional Language Editing Certificate



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APPENDIX 4: Evidence of papers submission to journals

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