# A study on property as an investment option for Rotating Savings and Credit Associations (ROSCAs) in South Africa

*A dissertation submitted to the Faculty of Commerce, Law and Management, University of the Witwatersrand, in partial fulfilment of the requirements for the degree of Master of Management in Finance and Investments*

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## DECLARATION

I, Thembelihle Shube, declare that this research report is my own work. It is submitted in partial fulfilment of the degree of **Master of Management in Finance and Investment (MMFI)** at the University of the Witwatersrand Business School. It has not been submitted before for any degree or examination in any other university.

Signed:

Thembelihle Shube (2021)

## DEDICATION

I dedicate this research report to my grandparents, Dr Colbin Gejegeje Shube and Mrs Idah Busisiwe Shube. Thank you for always pushing me to reach my academic goals.

## ACKNOWLEDGEMENTS

Firstly, I would like to thank the Lord Almighty for enabling me to complete this qualification. I thank my husband Eric, for his continuous support and encouragement. Thank you to my mother, Gugu, and the Shube and Mohlatlola families for all their support during my studies. I am also grateful to my supervisor, Prof Christopher Malikane, for his guidance.

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## ABSTRACT

The aim of the research was to investigate ROSCAs in South Africa as potential property investors. Through the analysis of the economics that govern ROSCAs and property investing, the research aimed to determine whether residential property investments could be a viable option for these informal credit and savings associations, known as stokvels in South Africa. A literature review and investigation on the financial products tailored for ROSCAs in South Africa was conducted to determine the risk appetite of these associations. Investment portfolios, including residential property returns, were constructed to get mixed asset portfolios. The risk and return associated with each portfolio was calculated to determine if the inclusion of property would yield a positive return. The results of study suggest that direct property investment is a feasible investment option for ROSCAs. The inclusion of property investment with existing savings and investment products available to these associations, can result in a diversified portfolio for ROSCAs with increased returns. The findings of this study have implications for stokvels investing in property, formal financial institutions, and policymakers. Property is a viable investment asset with a higher risk than the current products mostly used by stokvels. Although these associations are known to be risk adverse due to consumption related activities, their risk profile can change with financial education and exposure to investments. Direct property investments can be approached in different ways by stokvels, with the construction backyard rooms for rental income as an example of exercising such an avenue.

# CHAPTER 1 - INTRODUCTION AND BACKGROUND

Rotating Savings and Credit Associations (ROSCAs) are commonly found in developing countries, within urban and rural areas; these associations play a key role in addressing the financial needs of their members (Kabuya, 2015). ROSCAs can be viewed as an alternative financial vehicle for individuals that have limited access to formal financial markets (Hevener, 2006). Members of these associations pool funds together regularly and these funds are generally channelled towards consumption related activities (Du Plessis, 2009). In South Africa, ROSCAs are commonly known as *stokvels* and collectively save approximately R49 billion annually (African Response, 2020). The size of the ROSCA market in South Africa is evidently significant, and *"holds opportunities for growing the economy at large and absorbing the unemployed through the exploitation of existing and new markets"* (Bophela & Khumalo, 2019, p.35).

Although *stokvel* is an overarching term used to describe these associations, they hold unique names in different areas within the country, such as *mohodisana* and *kuholisana* (African Response, 2012). Verhoef (2001) describes stokvels in South Africa as a wide range of mutually beneficial saving societies. These associations provide a variety of services from simple group savings, to profit driven investment initiatives and are mainly found within black communities (Moliea, 2007). According to African Response (2020), there are approximately 522,000 stokvels in South Africa, with more than 11.6 million members. While different types of group savers have been identified globally with different names and which exhibit different structures and operations to each other, ROSCA has been an overarching term used for these associations.

Being a member of a ROSCA is voluntarily and these associations are a global practice found in different communities. They can be, however, used differently. Although the uses of these ROSCAs differ globally, they all still serve the same purpose of being an alternative financing structure (Mulaudzi, 2017), especially where formal financial institutions have not met the financial needs of communities.

Land access and ownership is one of the socio-economic problems faced by developing countries in Africa (Corrigan, 2009). According to Corrigan (2009), having access to land rights increases the potential for investment and the ability to build a residence. The limited access to these rights in some areas in Africa is due to ownership conflicts and the lack of

financing, making property ownership difficult for the informal sector communities. ROSCAs have been performing the function of financial intermediaries within communities, where formal financial services have been limited (Bouman, 1979). According to the General Household Survey of 2018 by Statistics SA, only 35.3% of South African households own a dwelling, and only 5.4% own land.

## 1.1 PROBLEM STATEMENT

ROSCAs act as a financial intermediary for its members in various communities in South Africa. The problem this study seeks to address is that majority of ROSCAs are focused on consumption related activities, according to Old Mutual (2019) in the last five years, an increase in property investment focused ROSCAs has been observed in South Africa. However, property investment is risker compared to the short-term savings focus of most ROSCAs in South Africa. To this end, this study will explore the ability of ROSCAs to allocate their savings towards investment related activities, with specific consideration to the investment in residential property.

## 1.2 RESEARCH AIM AND OBJECTIVES

The aim of the research is to determine if property can be an investment option for Rotating Savings and Credit Associations (ROSCAs) in South Africa. On that end, the objectives of the research are outlined below:

- To compare and identify the savings and investment products that are currently available for ROCSAs and assess the associated risk appetite for these associations based on these products.

- To construct a portfolio with assets that meet the risk and liquidity requirements of ROCSAs and include residential property as an investment class, to determine if it will result in increased returns for these associations.

## 1.3 SIGNIFICANCE OF STUDY

The findings of this study will benefit policymakers, ROSCAs, and formal financial institutions in South Africa - through the identification of the financial mobilisation and product accessibility and diversity in the country's informal sector, specifically within the stokvel industry. Financial inclusion is an important development priority and access to property rights are a crucial factor for long-term economic growth (Locke, 2013). Inclusive and innovative

financial markets that reach all sectors should be one of the key concerns for policymakers and formal financial institutions (Cull, Ehrbeck & Holle, 2014). Studies have shown that ROSCAs have been successful in providing long term social welfare benefits, and this study will help establish if these associations can provide long term investment benefits within the property industry.

## 1.4 PRELUDE TO THE RESEARCH REPORT

Chapter one is the introduction and background of the study, providing an overview of the research study. Chapter two, discusses literature that was reviewed, followed by the research methodology used in the study in chapter three. In chapter four, the results are presented and analysed. The research results discussion and conclusion are given in chapter five.

# CHAPTER 2 - LITERATURE REVIEW

## 2.1 INTRODUCTION

According to Mashigo and Schoeman (2010), credit and savings associations act as social and economic tools that provide financing for planned and unplanned events for its members. The informal savings associations act as a catalyst for the poor,mobilising financial services in the absence of formal financial institutions (Irving, 2005).

The term *stokvel* is derived from 'stock fairs', which were cattle auctions conducted by English settlers in the Eastern Cape during the nineteenth century (Schulze, 1997). These stock fairs were attended by black farmers to exchange goods and information; the gatherings became regular and grew independent of the initial cattle auctions. Stokvels then later evolved from tea parties mainly attended by women, to gatherings focused on savings and credit options (Schulze ,1997). As the gold mining period began in the 1880s, men migrated to Johannesburg and continued the practice of stokvels in the city of gold, specifically focusing on burial stokvels (Matuku and Kaseke, 2014). However, Naong (2009) narrated an alternative version to the origin of stokvels in South Africa; stating that stokvels were formed in the townships of the Witwatersrand in the early twenties. These groups were formed by female entrepreneurs brewing beer illegally and selling it for additional income and to support each other financially. This chapter will review literature on ROSCAs, focusing on their mechanics, stokvels in South Africa, and lastly, property as an investment option.

## 2.2 MECHANICS OF ROSCAs

Biggart (2001) analysed the social circumstances in which these globally found associations emerged. According to Biggart, these associations are formed in communities and social circles where: (i) members have the same social status, (ii) there exists a social structure built on communal ties, (iii) obligations are collective, (iv) there is social, economic and geographic isolation and lastly, (v) members are socially and economically stable.

ROSCAs are generally formed by individuals within the same communities (Irving, 2005). These associations are based on trust, which makes members people that work together, live near each other, and even share the same religious beliefs (Biggart, 2001). Due to the group homogeneity, the members are also likely to share the same social economic problems. The associations emerge in communities where members believe in building each other up socially

and economically. Being within the same social setting and having the same collective goal, enforces the collective obligation to each member. ROSCAs are mostly formed in isolated areas that lack formal financial services and are often segregated by ethnicity (Biggart, 2001).

### 2.2.1 Operations, governance and risks in ROSCAs

According to Hevener (2006), ROSCAs serve an economic and social function. Members pool funds towards a common goal and have regular meetings which form part of the social aspect of the association. Certain characteristics are observed within ROSCAs, these include the membership structure, contribution amount (Bisrat, Kostas, & Fenga, 2012), procedures, accessibility, adaptability, and the multi- functional nature of these associations (Bouman, 1977).

Each ROSCA decides on the structure of their association, including the contribution amounts, regularity of meetings, the order of the rotation of funds, and the number of members in the group (Gugerty, 2007). Meetings are held regularly, and contribution amounts are determined by the needs, affordability and goals of the group - these amounts can be in kind (referring to goods and services), or in cash, or a combination of both (Bisrat et al., 2012).

Each member receives a portion of the pooled funds during each savings cycle, and although contributions towards the fund are generally equal, the benefits are not always equal. In a rotating association, the first member that collects from the fund is a debtor and the last member to collect is a creditor, extending credit to fellow members (Smets, 1998). These associations are also easily accessible to members, as they are often formed in communities in rural, peri-urban and urban areas (Mulaudzi, 2017). Bouman (1977,p. 183) describes this accessibility as "*bringing saving and credit facilities right down to the most basic level*".

Savings and credit associations have also been observed to be evolving structures, adapting to changes in their environment (Mulaudzi, 2017). They have changed from purely saving institutions, to ones that include credit and investment objectives. Although ROSCAs are mostly associated with consumption activities, some ROSCAs are used for other objectives, such as the funding of small business enterprises (Arko-achemfuor, 2012). Saving associations have also evolved from saving for simple expenses, such as funerals and dowry, to including complex savings that are elated to housing and educational expenses (Bouman, 1977). The multifunction dimension characteristic of these associations encompasses the economic, financial, and social elements provided for by such groups.

ROSCAs are known as informal financial structures, however, they have protocols in place that regulate them. Stokvels generally appoint a chairperson who is supported by a treasurer and secretary (Moliea, 2007). These three key positions are rotational, and members are elected to these roles at the beginning of each cycle. The secretary is responsible for setting up meetings and the treasurer collects the contributions. This segregation of duties minimises the risk of corruption (Peterlechner, 2009). The chairperson enforces the regulations and ensures that all procedures are followed by each ROSCA member (Moliea, 2007).

ROCSAs can be used as a risk management tool by members during economic disturbances that might affect their regular income, as funds received from the association during this period can be used for consumption smoothing (Lensink, Servin & van den Berg, 2015). ROSCAs also have a risk sharing element; therefore, issues of moral hazards and adverse selection are unlikely due to the social communal ties that members have (Besley et al., 1993).

The social connectedness and collective obligation of these associations can be viewed as a 'hedging' strategy against certain risks that ROSCAs are potentially exposed to. When a new member joins the group, they are likely to be in the same social circles as the existing members, making the members aware of the joining member's social and economic stability. ROSCAs need to ensure that recruited members can meet the stipulated financial commitment to avoid any exposure to the risk of defaulting (Mushuku & Mayisa, 2014).

Although a segregation of duties exists between the key roles within a ROSCA, the risk of the mismanagement of funds by the treasurer or chairperson still exists (Mulaudzi, 2017). According to Mushuku and Mayisa (2014), any misuse of funds could affect the sustainability of a ROSCA, mainly because of the lack of governing legal regulations as these associations are mostly built on trust between members.

Issues of moral hazard and adverse selection are present in formal and informal financial markets. Formal financial institutions that lack information on individuals fail to assist individuals seeking financial services (Guha & Gupta, 2005). The asymmetric information problem is linked to adverse selection and moral hazard (Chowdhury, 2010). A ROSCA is an informal intermediary and plays a critical role of dealing with moral hazard and adverse selection. Group based lenders and savers reduce the moral hazard behavior of participants as members screen and monitor each other, reducing the risk of the mishandling of funds (Mehrtead, 2005). Mehrtead (2005) conducted research on moral hazards and group lenders,

the researcher found that the present monitoring and social ties of the leadership of the group is efficient in reducing moral hazard behavior, yet the monitoring of other group participants is not.

Mashigo (2009) examined group lending as a solution to improving access to credit for poor households, using data from a township in South Africa. The researcher found that group lending is a solvent for the asymmetric information problem linked to moral hazard and adverse section and resolves the collateral and transaction cost issues linked to lending.

### 2.2.2 Typology of ROSCAs

Different types of ROSCAs are found globally, and each geographical area has a local name for these associations. In the Democratic Republic of the Congo, these associations are known as *likelemba* and in Mozambique, they are called *xitique* (Mbizi & Gwangwava, 2013). Mushuku and Mayisa (2014) grouped ROSCAs into three types: (i) simple or random ROSCAs, (ii) consumer durable ROSCAs and lastly, (iii) discounting or bidding ROSCAs.

#### *Simple or random ROSCAs*

In simple ROSCAs, all contributions by members are fixed and all members receive a portion of the pooled funds. At the end of a cycle, all members would have received a share equal to their total contribution, therefore resulting in no net gain or loss.

#### *Consumer durable ROSCAs*

In consumer durable ROSCAs, contribution amounts are also fixed, however instead of rotating funds, each member receives a physical good such as an asset. The goods bought for each member during the cycle are agreed upon before the cycle begins, therefore members can get discounts for guaranteed purchases.

#### *Discounting or bidding ROSCAs*

The third category, discounting ROSCAs, uses bidding to determine who receives money from the universal fund first. Generally, the organiser of the ROSCA will receive pooled funds first, however, the rest of the members will have to bid more than others to be next in line. The bidding can be in the form of committing to higher contribution amounts or by bidding a once offside payment to other members (Besley, Coate & Loury, 1993).

## 2.3 STOKVEL TYPES IN SOUTH AFRICA

The evolution of stokvels in South Africa has resulted in the identification of the subtypes of these social groups. The social aspect of all these types remains at the core of these associations. Several academic findings from Kibuuka (2007), Mashigo and Schoeman (2012), Matuku and Kaseke (2014), Irving (2005) and the National Stokvel Association of South Africa (NASASA) (2020) identify the different types of saving groups in South Africa. These are outlined below.

### *Rotating Savings and Credit associations*

This is the most generic form of a stokvel. The number of members, rotation order, contribution amount, and duration of the stokvel cycle are pre-determined by the members. The total pooled contributions in each collection period are rotated and given to each member therefore the money is not saved with a formal financial institution. This type of stokvel generally has a gathering hosted by one of the members, the funds are rotated at the gathering, and the host normally would be the member receiving the funds. According to Verhoef (2001), these contributions can be in cash with in-kind goods such as groceries that are added to the cash pool.

### *Accumulated Savings and Credit associations*

This type of stokvel involves the pooling and accumulation of contributions into one pot for distribution at a future date. These are known as saving clubs and targeted savings stokvels; the total contributions are generally deposited by members into a formal financial institution for the duration of the saving cycle. Some of these saving clubs extend their saving goals to interest income accumulation through interest gained from the bank account savings or through informal lending to members and non-members. The pooled savings and interest are shared among members at the end of the life cycle of the stokvel, which is generally at the end of the year. Unlike other types of ROSCAs, a member can contribute more than the pre-determined minimum contribution amount. Therefore, the benefits (capital and interest) will not be the same for each participant but are dependent on the individual's contributions.

***Burial stokvels***

The key objective of this stokvel type is to assist members with funeral expenses. The support provided is financial and social for the member in need and their family. Some burial stokvels bank the contributed funds and they pay out on the death of the approved beneficiary.

***High budget stokvels***

These stokvels are formed for the purpose of promoting savings and investments. High budget stokvels are generally not linked to individuals with limited means, as members are often higher income earners. Contributions are higher than other stokvel types, and the benefits received enable members to acquire goods or services that require a substantial amount of funds.

***Grocery stokvels***

These stokvels are also known as cooperative buying societies. According to Mabika (2018), these grocery stokvels are established to pool funds to enable the purchasing of basic household goods, bought monthly or annually. The collective purchasing power of the stokvel enables them to purchase in bulk at a lower rate with retailers. Some of these purchasing power groups prefer to save contributions with wholesalers instead of saving with formal financial institutions; this is done to avoid bank charges and secure discounts with the chosen wholesaler (Zondi, 2016).

***Property stokvel***

According to Mashego (2019), a property stokvel applies the savings and investment principles of a stokvels to property. The aim is to make property investment and ownership accessible to more people who have the same goal. According to the Old Mutual Investment and Savings Monitor (2019), there has been an increase in property stokvels in South Africa in the past five years. Old Mutual also distinguishes between three sub types of property stokvels that have been identified:

I. **Wealth creation stokvel**: Construction of a property investment portfolio for the group.

II. **Home ownership stokvel**: The acquisition or construction of a property for each member.

III. **Building materials stokvel**: Acquisition of building materials for each member for property renovations.

Other stokvels that can be found in South Africa are more focused on the social aspect, which stems from the gatherings held by members of the different types of stokvels (Irving, 2005). These are entertainment focused and include birthday and holiday stokvel groups.

## 2.4 STOKVEL PARTICIPATION AND SUCCESS FACTORS

Verhoef (2002) states that stokvels still exist because of the social aspects and economic benefits embedded in these associations. These two factors have been found by researchers as the key drivers of participation and the success of ROCSAs in South Africa.

### Social aspects

The social networks, support and creation of social capital were some of the benefits found in being a member of a stokvel in a study conducted by Matuku and Kaseke (2014). Moliea (2007), Verhoef (2002), and Kibuuka (2007) also found that the social elements and gained mutual support are a key driver in one choosing to become a member of a stokvel. Irving (2005) further describes this social capital as a vehicle of mutual insurance, as the trust among members serves to mitigate the risk of adverse selection of group members.

### Economic benefits

Pooling funds together and having access to funding within the association is a key benefit for joining a stokvel. Naong (2009) states that stokvels have become a lifestyle for members that are predominately black in South Africa and are a vital tool for wealth accumulation through the savings culture. Unemployment was identified as a reason for participation in a stokvel, as these associations give members access to funds they would not otherwise have (Matuku & Kaseke, 2014). In a study on high budget stokvels, Kibuuka (2007) revealed that participants of investment stokvels stated that stokvels offered members an opportunity to use economies of scale, through the pooling of funds to invest in financial markets.

## 2.5 RELATIONSHIP BETWEEN STOKVELS AND FINANCIAL INSTITUTIONS IN SOUTH AFRICA

According to the National Stokvel Association of South Africa (NASASA), the early banking activities of stokvels started through Permanent Building Society (Perm Bank) in conjunction

with NASASA, which offered club accounts to stokvels in 1988. Within two years of launching, 44500 club accounts had been mobilised with more than R96 million banked. The account had no service fees and had limited withdrawals (Verhoef, 2001). The club account launched by Perm Bank is said to have formed the basis of the stokvel accounts that are currently offered by financial institutions in South Africa today (NASASA, 2020).

ROSCAs in South Africa act as a financial intermediary within the communities of participants, despite formal financial services being available (Noang, 2009). Zondi (2016) conducted research on the linkages between stokvels and formal financial institutions in South Africa. The researcher found that these institutions do not operate in insolation. However, although these associations do not operate separately, several studies have shown that participants of stokvels still prefer informal group savings to commercialised banks (Moliea, 2007).

According to Mashigo (2012), when compared to the formal financial institutions, the social element embedded in stokvels make it possible for these informal structures to charge lower fees and have no collateral requirements, where credit is granted – these are standard requirements within formal financial institutions. These associations are therefore able to provide financial services to the unemployed, and to those that do not have the documents required by formal institutions to offer these services. Calvin and Coetzee (2010) state that stokvels provide savings and credit facilities and are self-governing legal entities which are exempted under the Banks Act of South Africa.

Participants of stokvels that have access to formal financial services still opt to be members of these associations. Moliea (2007) investigated the reasons why stokvels were still chosen over formal institutions, and the most cited reason by respondents was that stokvels forced savings. Other reasons included the flexibility of the contribution amounts and the accessibility to funds where credit is required. One of the major perceptions from respondents was that banks were expensive. This is similar to findings by Irving (2005), who found that participants of stokvels had a mistrust for banks due to their high banking fees. Another contributing factor was the lack of understanding of the services and products offered by banks.

Banking fees are a major factor for stokvel participants. When a stokvel offers credit, it can earn higher returns on those lent funds compared to the savings rate offered by commercial banks (Zondi, 2016). Stokvels that do not bank their savings with commercial banks, feel that these institutions are expensive as the fees are high (Moliea, 2007). According to Mulaudzi

(2017), products offered by banks are said to be inhibitors for stokvels; the product offerings are basic, mainly for deposit and withdrawing transactions. Financial innovation and reform are required to reap the value stokvels have (Mulaudzi, 2017).

FinTech companies have become prevalent in the financial market, Mkhwanazi (2020) states that FinTech's can play a critical role in linking excluded communities with financial products. FinTech services such as M-Pesa have played a key role in enhancing financial inclusion in Africa and online stokvels on these platforms can also achieve such success through the dissolution of traditional constraints linked to stokvels such as location and administration (Mkhwanazi, 2020). FinTech innovation can assist with reducing costs, reaching a wider range of investors and improving the perceptions of banks by stokvels. Nkosi (2018) found that in South Africa, there exists no relationship between the banking industry and FinTech start-ups, in relation to collaboration and corporate venturing.

### *Financial Products for ROSCAs in South Africa*

The stokvel market in South Africa is significant in size, and financial institutions - mainly the banking sector- have developed products specifically targeted at this market segment. It has been reported that 41% of stokvels are banked and according to data from Nedbank, the most popular stokvels are savings stokvels, grocery stokvels, and burial societies (Dlamini, 2019). A study by African Response in 2018, found that banked stokvels mainly invested funds in notice accounts, followed by savings accounts. In the same study it was discovered that fewer stokvels invested in stocks, Exchange Traded Funds (ETFs), property and unit trusts.

## 2.6 STOKVELS AS INVESTORS

The significant size of the stokvel market in South Africa creates opportunities for the members of these associations to become investors (Arko-Achemfuor, 2012). Stokvels are similar to an insurance policy taken against any loss of future consumption, instead of saving for future investment to accumulate wealth (Mukhwevho, 2017). Investment stokvels are a type of stokvel found in South Africa that specifically focuses on investment activities. According to Verhoef (2001), investment stokvels are cooperative societies with an aim to invest in business ventures, buy expensive or large commodities and execute capital projects.

Arko-Achemfuor (2012) conducted a study on stokvels as a financier for SMMEs in South Africa. The researcher found that investing the pooled funds into entrepreneurial ventures could assist stokvels earn returns and simultaneously contribute to economic growth. Mulaudzi

(2017) investigated stokvels transitioning from consumers to investors and found that the lack of financial education and understanding of investments was a key reason for stokvels not investing. According to Mulaudzi (2017), stokvels have a low risk profile and do not want to risk losing funds. The risk appetite of a stokvel is determined by the mandate of the group and the past investment experiences of individual members. In a study on the investment opportunities available for stokvels in Gauteng, the researcher identified short term deposits, unit trusts, rental properties, agriculture, and infrastructure as investment options (Tanzi, 2020).

Investment products specifically targeted at stokvels in South Africa have been developed over the years. According to African Response (2012), the Board of Executors (BoE) Bank in collaboration with First National Bank, launched a unit trust product for stokvels in 1993. The aim of the product was to provide stokvels with investment opportunities to earn more on their collective savings. The investment product was however not successful, and the National Stokvel Association of South Africa (NASASA) believed that the product was unsuccessful because it was ahead of its time. STANLIB in 2007 also launched a unit trust investment for stokvels; contribution amounts were low, and capital was invested in a conservative account with moderate risk and if required, funds could be accessed within two days. Despite this, the product launched by STANLIB had a low uptake from the stokvel market.

## 2.7 PROPERTY AS AN INVESTMENT OPTION

Real estate investments are a superior investment asset class compared to other investments (Hager and Lord, 1985). Property as an investment asset has been identified by many scholars as a key portfolio diversifier. Diversification in property investments can be geographical and based on the property type (Akinsomi, Pahad, Nape & Margolis, 2015).

### 2.7.1 Property investment channels – direct and indirect

Property can be included in an investment portfolio, either by investing in it direct or indirectly. Indirect property investment entails investing in financial instruments that are linked to property - such as property loan stocks, property unit trust funds, and Real Estate Investment Trusts (REITs) (Bauer, 2012). Direct property investing involves buying the physical asset, which can be residential or commercial property. An investor would select the option that best meets their investment needs and preference.

Direct property investing is capital intensive and where an investor does not have sufficient capital, the most common financing strategy used is a bank loan (Selin, 2016). Direct property

investment also requires active management as it is admin intensive. Hager and Lord (1985) identify factors that are linked to direct property investment and the impact they have on returns. These factors include initial capital required to acquire the property, management costs associated with running the property, tax implications, government regulations, and periodic rental income reviews. Returns from direct property investments can be yielded through short term returns from the rental income and long-term capital gains received from the sale of the property (Potelwa, 2013).

Indirect property investment options such as property funds allow investors to invest without worrying about the administration linked to the physical asset (Hager & Lord, 1985). A key benefit of investing indirectly in property is the economies of scale related to the fund and the diversification of the portfolio (Bauer, 2012). The returns on indirect property investments are from dividends received from the stocks or an increase in value of the stock price or unit trust (Investment Property, n.d.).

When deciding whether to invest directly or indirectly in property, Bauer (2012) states that investors need to have a strategy to build their property portfolio and have clear objectives. A study conducted in Lagos on the performance of direct and indirect property investment, found that direct property performed better than indirect property investments (Oyewole, 2014). However, a similar study in Sweden found that indirect investments in property perform better (Falk, 2012). Therefore, each property market is different and will produce different returns for each property type. Different factors affect real estate markets, factors such as market size, economic efficiency, market maturity, and exit liquidity (Lee, 2005). When selecting property investments, an investor should "*maximize homogeneity within a group and maximize heterogeneity between groups*" (Seiler, Webb, & Myer, 1999,p. 176). The groups discussed by the authors include the property type, economic and geographic regions, and the areas (urban versus rural).

Although property is seen as a favourable asset to include in an investment portfolio, its accessibility to a wide range of investors is also an important factor to consider. Ezimuo, Onyejiaka and Emoh (2014) identify financing as a major issue in real estate development and investment. Investing directly, indirectly or a combination of both in property, is a decision an investor should consider carefully - accounting also for the potential risks associated with each option (Oyewole, 2014).

### 2.7.2 Direct property investment risk and performance

Property has been indicated as a key diversifier in an investment portfolio. An investment in property cannot be considered in insolation but needs to be reviewed with other assets, in a mixed asset portfolio (Adair, McGreal & Webb, 2006). In a study by Keng and Hwa (2004) to examine the diversification effect of including residential property in a portfolio, it was determined that when property was added to a portfolio with bonds and shares, the overall performance enhanced significantly. In a study conducted in the United Kingdom, when property was added to portfolios, it was found to be a good portfolio diversifier for only low and medium risk portfolios (Adair et al., 2006). The low and medium risk portfolios had a nil or a low weighting of equities in the portfolios. Residential property is an ideal asset class to be included in an investment portfolio to diversify its unsystematic risk, resulting in the stabilising of cash flow (Sun, Liu & Zheng, 2004). When investing in direct property, there are risks that the investor is potentially exposed to as discussed by Sun et al. (2004) and as shown on the table below.

**Table 2.1 Risks associated with a direct property investment**

| **Risks** |
|---|
| ***Interest risk***: Residential property value and fund utilization. Increase in interest rates will result in a decrease in property demand, therefore leading to a reduced valuation of the property. Increase in interest will increase fund utilization costs. |
| ***Liquidity risk***: Property is an immovable asset difficult to sell in short term. |
| ***Indivisibility risk:*** Residential property transactions are undividable which could require intensive capital. |
| ***Contingent risk***: Risk of natural disaster. |
| ***Operation risk***: Potential losses due to misaligned market demand. |

### 2.7.3 Typology, costs and benefits of direct property investing

The property market attracts different types of investors, with varying reasons for investing in this asset class. Özogul and Tasan-Kok (2020) reviewed these investor types from literature and grouped them into four meta-categories. The first category is *spatial scale of operation,* where some types of investors in the category are foreign and regional. The second category is *size and social composition*, where investor types in this group are individual and institutional. The third category is *investment and finance object*, where the types of investors include buy-to-rent, private equity, and residential mortgage-backed securities investors. Lastly, the *investment and social behaviour* category, which includes amateur, unsophisticated and rational property investors.

Sun et al., (2004) identified costs and benefits related to residential property investment. The costs associated with this investment are the asset price, transaction expenses, searching costs, holding costs linked to rental property, along with management and maintenance fees. Some of the benefits according to the study are:

- Residential property investment has a higher risk adjusted return than equity investment.
- Residential property is an efficient hedge against inflation.
- Potential returns of residential property investments are considerable.
- Rental income is main source of residential property investment return.

### 2.7.4 Informal and formal direct property investments and constraints with property investments in South Africa

South African has seen an increase in informal residential property due to the demand for housing by low-income groups (Scheba & Turok, 2020). According to the Centre for Affordable Housing Finance in Africa (2020) known as CAHF, residential property is the largest component of the South African property market. The demand for informal properties has resulted in the acceleration of informal rental housing. According to Urban LandMark (2011), formal property markets in South African exclude low-income groups due to unaffordability and low income. Most South Africans cannot afford to acquire property formally as affordability is a key requirement by formal financial institutions. CAHF (2019)

reported that 55% of registered properties in South Africa in 2019 were valued at below R600,000, and government subsidised properties made up most of those statistics.

Although government is providing formal housing, there is still a need for property for the lower income group and informal rentals are covering the gap. Informal rental housing is typically found in townships, and through backyard rentals found in the yards of formal houses (Scheba & Turok, 2020). The informal rental market has grown the entrepreneurial property investment sector. Property developments such as micro-flats are being built in backyards for rental income generation, as found on informal property types in communities in Cape Town (Scheba & Turok, 2020).

Rental property, whether formal or informal, has constraints that need to be considered before investing. Frew (2016) identified key constraints to investment in residential rental property in South Africa. Participants in the study identified six major constraints:

**Table 2.2 Key constraints in residential rental property**

| | |
|---|---|
| 1. Funding | Individuals and small company investor constrain: Access to funding at competitive rates and favorable terms is difficult. |
| 2. Management skills | Hands-on-approach is important for residential property management and acquiring component property managers is a constrain. |
| 3. Management costs | Operating costs of residential property is higher than other property types, therefore reducing investment returns. Residential property operating costs are absorbed by the investor. |
| 4. Property liquidity | Institutional investors and large investor constraint: Finding sizable residential property transactions. |

| | |
|---|---|
| 5. Absence of investment market information | Difficult to raise funding at a larger scale for property investment due to the lack of information on the market. |
| 6. Legal constraints | Smaller investors constrain: Legal protections in place that support tenants of residential property, and time to evict unlawful squatters impacts rental income. |

## 2.8 CONCLUSION

This chapter reviewed literature on Rotating Savings and Credit Associations and residential property. The review on the operations of these associations, stokvels in South Africa and property as an investment option was unpacked according to literature. The following chapter will discuss the methodology approach taken for the research investigation.

# CHAPTER 3 - RESEARCH METHODOLOGY

This chapter introduces and explains the research methodology that is used to investigate the objectives set out in Chapter One. The first step is to identify the current rates offered to ROSCAs in South Africa. Secondly, a selection of possible investment assets that the associations can invest in will be identified. The selected assets need to be in line with the investment horizon and risk tolerance of these saving groups. Equities were excluded in the portfolio construction as they are a risky asset class and require a long-term investment period, which does not align with the short-term nature of ROSCAs. A portfolio will be constructed, and property investments will be included. The methods that will be applied include portfolio performance measures and portfolio theory.

## 3.1 DATA AND DATA SOURCES

Banking institutions mainly offer stokvel investment and savings products in South Africa. The interest rates offered by these institutions will be collected from the various financial institution's websites. Performance data on property will be collected from the Federal Reserve Economic Data (FRED), First National Bank House Price Index and TPN Credit Bureau. Data on the returns of the assets in the constructed portfolio will be collected from the South African Reserve Bank and FRED. The research data will be collected for the period between 01 January 2010 and 31 December 2019.

Property investments can be capital intensive, and according to Old Mutual (2019), the average monthly member contribution for property stokvels is R859. Based on the average contribution amount and the current increase in property stokvels focusing on residential property, the study will focus on data on residential property and not include commercial property.

## 3.2 DATA ANALYSIS

### 3.2.1 Portfolio construction and comparison

Using portfolio theory, efficient portfolios will be constructed. The use of Modern Portfolio Theory (MPT) entails selecting portfolios that maximise expected returns that are consistent with an acceptable risk level – this is done using quantitative models and historical data to construct an optimal portfolio (Fabozzi & Grant, 2001). The expected returns of the portfolios will be calculated using the equation 1.

$$E(Rp) = \sum_{i=1}^{n} w_i E(R_i)$$ **Equation 1**

where:

$N$ = the number of assets

$W_i$ = proportion of funds invested in asset i

$R_i$ = the return of the asset i

$E(R_p)$ = the expected portfolio returns

Three efficient portfolios will be constructed. In order to construct these portfolios that will minimise the risk for each level of return, a mathematical technique known as quadratic programming will be used. These calculations will be done on the computer application, Microsoft Excel. Lee and Su (2014) state that Excel is by far one of the best applications for generating the efficient portfolios and has no limits in the number of assets it can handle. The MTP with quadratic programming will be used together to optimize the selection of investment portfolios. The aim is to construct efficient investment portfolios that minimize risk and maximise expected return. MPT and quadratic programming have their limitations however it is still considered to be the best method to other alternatives for constructing the most efficient investment portfolio (Oropeza & Piñate, 2013).

The first constructed portfolio will be a benchmark portfolio and will include fixed income assets. The returns of the benchmark portfolio will be compared to the rates that are currently offered by financial institutions to stokvels. If the returns from the benchmark are substantially higher, then it can be said that stokvels are better off managing their own funds.

The second and third portfolios will include property assets and the assets in the benchmark portfolio. A comparison of the different portfolio returns will be done to determine if property investments will increase returns for stokvels.

### 3.2.2.Performance measures

In order to evaluate the performance of the portfolios, risk return measures will be employed. The measures used in this study to assess the performance of the portfolios are the Sharpe ratio and the variance of returns of a portfolio as shown in equations 2 and 3, respectively. The performance of the benchmark portfolio and property portfolios will be evaluated using these

measures. The Sharpe Ratio is best used to measure the performance of an investor's total portfolio and is a good comparative performance measure to make decisions between alternative investments (Aragon & Ferson, 2006).

$$S_p = \frac{r_p - r_f}{\sigma_p}$$ **Equation 2**

where:

$r_p$ = portfolio return

$r_f$ = risk free rate

$\sigma_p$ = portfolio standard deviation

$$Var(R_p) = \sum_{j=1}^{n} \sum_{k=1}^{n} w_j w_k \rho_{j,k} \sigma_j \sigma_k$$ **Equation 3**

where:

$w_j w_k$ = weight of each asset

$\rho_{j,k}$ = correlation coefficient between the returns of assets

$\sigma_j \sigma_k$ = standard deviation of returns of assets

### 3.3 LIMITATIONS OF THE STUDY DATA

Most stokvels are formed in black communities and the study aimed to get residential property returns in geographical areas where these associations are mostly formed. Data on property rentals and property growth rates in townships and informal areas is limited. Therefore, property rental yields of the ten largest townships in South Africa were used as a proxy for these communities. The property growth rates used, cover all residential properties in South Africa financed by the data provider, inclusive of all areas not just limited to townships.

Transaction costs are not included in the calculation of the residential property returns; therefore, it is expected to result in an upward bias to property returns. As the holding period of an asset increases, the transaction costs are expected to diminish over the long term (Keng & Hwa, 2004).

## 3.4 CONCLUSION

In this chapter, the research methodology was detailed. The data was collected from various sources for the period January 2010 until December 2019. The following chapter will undertake the analysis of the data and research results.

# CHAPTER 4 - RESEARCH FINDINGS

This chapter presents the research findings of the study in line with the research objectives set out in chapter one. The objectives of this study were:

- To compare and determine the savings and investment products that are currently available for ROSCAs and assess the associated risk appetite for these associations.

- To construct a portfolio with assets that meet the risk and liquidity requirements of ROSCAs and include property as an investment class, to determine if it will result in increased returns for these associations.

## 4.1 FINANCIAL PRODUCTS FOR ROSCAs IN SOUTH AFRICA

This chapter will investigate the different types of financial products available to stokvels and review the accounts mostly used by stokvels. Lastly, this chapter entails an analysis on other financial products in the market that can be utilized by ROSCAs in South Africa.

### 4.1.1 Stokvel Accounts

The banking sector dominates with product offerings tailored to the ROSCA market in South Africa. Table 4.1 compares the accounts currently available for this market segment with the interest rates offered on each account. These rates are dependent on the amount deposited in the account over the investment period. The accounts are opened in the name of the stokvel, and the group constitution and specified signatories are required to open an account.

The saving accounts offered by banks have no monthly fees, however, they do charge for transactions such as multiple withdrawals within a month and deposits made inside a branch. The investment accounts available to ROSCAs have no guaranteed returns linked to the investment; the returns are based on the performance of the EFTs and unit trusts selected by the group.

The monthly investment contribution for these investment accounts range between R300 and R500 depending on the financial institution.

**Table 4.1 Stokvel accounts**

| **Institution** | **Interest rates/returns per annum(*minimum to maximum depending on amount deposited into account)*** |
|---|---|
| Savings Accounts | |
| **Nedbank**<br>• *Club Account/Stokvel Account* | 0.25% - 2% |
| **ABSA**<br>• *Club Account* | 0.05% - 1.55% |
| **Standard Bank**<br>• *Society Scheme savings account* | 0.30% - 2.15% |
| **FNB**<br>• *Stokvel Account* | 2.00% - 3.05% |
| **Postbank**<br>• *Bakgotsi Stokvel Account* | 0.45% - 2.40% |
| **Stokfella**<br>• *Nala Club Account* | 1.25% (savings account)<br>2.25% (32 days account) |
| Investment Accounts | |
| **Allan Gray**<br>• *Savings Club* | Dependent on the performance of the unit trust funds selected |
| **eftSA**<br>• *Investor Club/Stokvel Investor Plan* | Dependent on the performance of the Exchange Traded Funds (ETFs) |

### 4.1.2 Notice Accounts

Notice accounts were indicated as one of the most used products by stokvels in a study by African Response (2018). Notice accounts require an advance notice to be given before funds in the account can be accessed. The notice periods are generally determined by the financial institution and different interest rates are offered depending on the notice period given.

The available notice accounts from banks in South Africa are compared in Table 4.2. The interest rates earned are based on the deposited amount and notice period. The longer the notice period, the higher the interest rate earned. The minimum deposit amount for these accounts vary between each institution, with lowest being R250 and the highest being R2000.

**Table 4.1 Notice accounts**

| Institution | Notice periods | Interest rates/returns offered pe annum (minimum to maximum depending on amount deposited and notice period into account) |
|---|---|---|
| **Standard Bank**<br>• Notice Deposit investment account | 7 days, 14 days, 21 days, 32 days, 45 days, 60 days | 0.30% up to 4.25% |
| **ABSA**<br>• Notice Select | 7 days, 14 days, 21 days, 32 days, 45 days, 60 days, 90 days | 2.10% up to 3.85% |
| **FNB**<br>• 32 Day Flexi Notice<br>• 7 Day Flexi Notice | 7 days, 32 days | 2.5% up to 3.70%<br>2.50% up to 3.40% |
| **Nedbank**<br>• 32 Day Notice | 32 days | 2.45% up to 4.05% |
| **African Bank**<br>• Notice Deposits | 7 days, 32 days, 90 days | 4% up to 4.75% |

Fixed deposit accounts are also offered by financial institutions in South Africa. These accounts require a fixed amount to be deposited into the account upfront and for it to be locked in for a fixed period. Most stokvels in South Africa collect contributions on a monthly basis, therefore accounts allowing multiple deposits during the savings period are more aligned to the structure of most stokvels.

## 4.2 ALTERNATIVE FINANCIAL PRODUCTS FOR STOKVELS

The products discussed thus far are targeted specifically at stokvel groups. Other products that can be utilised by ROSCAs in South Africa exist in the market and offer competitive interest rates as shown in Table 4.3. Although these accounts are required to be opened in an individual's name, they have features and risk measures in place that could work for ROSCAs.

**Table 4.2 Alternative financial products for Stokvels**

| Institution | Product description | Interest rates offered per annum |
|---|---|---|
| **Capitec Bank - Fixed-term savings plan (multiple deposit option)** | An investment period of between 6 and 24 months. Frequency of the deposits are determined by the depositor. Funds are only available at the maturity date. | 2.25% – 5.23% |
| **Tyme Bank – GoalSave** | For every 30 days that the funds are in the account, the interest rate earned increases until it is fixed at the rate given at 90+ days, which is currently 6%.<br><br>Extra interest can be earned once at the 90+ days rate, if a 10 days' notice before withdrawal is given, the interest rate increases to 7%. | 4% - 7% |
| **African Bank - Savings Pocket** | Offers a fixed interest rate on any amount on the pocket save. | 4.50% |

All three accounts require the account holder to have a primary account with the financial institution, as these accounts are secondary accounts linked to the primary account.

**Capitec Bank: Fixed-term savings plan**

Capitec offers supplementary cards that can be given to other authorized users that can view the activities on the account. Internet banking is only available to the main account holder; however, supplementary card holders can view transactions at any ATM and get statements inside a branch.

**Tyme Bank – GoalSave**

Multiple GoalSaves can be opened, each with a unique name and can be used to save money for specific goals which can be short term or long term. Funds need to be moved from the main account to a specific GoalSave after each deposit. Tyme bank sends monthly statements on the activities of the account and information on interest earned on each GoalSave opened.

**African Bank - Savings Pocket**

The African bank savings pocket can be linked to up to 10 members. These members can be given online banking profiles and can view all activities on the account, however only the main account holder can transact on the account. Although this account is linked to a primary account, it has its own unique account number that can be used for deposits specifically for the savings pocket.

## 4.3 PORTFOLIO CONSTRUCTION FOR ROSCAs WITH THE INCLUSION OF PROPERTY

In order to determine if property will result in increased returns for stokvels, investment portfolios which include property were constructed. In the construction of these portfolios, the risk associated with each investment was assessed.

### 4.3.1 Assets in portfolios constructed

In order to determine if property will result in increased returns, three portfolios will be constructed. Property returns included in the portfolio construction are returns from direct property. The collective performance of the assets in each portfolio can be estimated by using past returns of each asset, the standard deviation, and their covariance to calculate the portfolio risk and return (Huni, 2018).

The historical data used for the returns of the assets included in these portfolios are for the period between 2010 until 2019. In order to determine an efficient portfolio, three different portfolios will be constructed with different assets. The construction of these portfolios was conducted on Microsoft Excel following these steps:

a. Calculate the average returns each asset included in the portfolio over the period 2010 to 2019.
b. Calculate the volatility (standard deviation) for each asset over the period 2010 to 2019.
c. Calculate the variance – covariance matrix between each asset in each portfolio.
d. Calculate the weights for each asset that will be included in the portfolio excluding short sales.
e. Calculate the portfolio returns and variance.

The assets included in each portfolio are discussed further below.

***Portfolio 1:***

Benchmark portfolio and includes returns for fixed deposits, bonds, and treasury bills. These are fixed income assets and are included in the benchmark portfolio before including property.

***Portfolio 2:***

This portfolio includes all the assets in Portfolio 1, plus rental yields. The rental yields are calculated as the total residential rental income for the period of one year stated as a percentage of the value of the property at that point in time. The rent and property value used for the ten largest townships in South Africa is shown in Table 1 of the Appendix. These returns will be used as proxy for expected rental yields in townships and rural areas in South Africa.

***Portfolio 3:***

This portfolio includes all assets in Portfolio 2, plus residential property growth rates in South Africa. These are rates as per the FNB Repeat Sales House Price Index, which is calculated using the Case-Shiller methodology. This approach is based on measuring the rate of change in the prices of individual residences between 2 points in time, based on when each residential property was transacted in a specific geographical market.

### 4.3.2 Descriptive Statistics

In this section, the descriptive statistics of the variables employed in this study will be presented. Three portfolios were constructed with different assets as discussed in the portfolio construction section.

**Table 4.3 Average monthly returns and variance of each asset class**

| | **Average return** | **Variance** |
|---|---|---|
| Fixed deposits | 7.44% | 0.67 |
| Treasury Bills | 6.29% | 0.73 |
| Government Bonds | 8.55% | 0.38 |
| | | |
| Residential Property Rentals | 12.58% | 1.48 |
| Residential Property Capital Growth | 5.03% | 2.25 |

Between January 2010 up to the end of December 2019, the average monthly returns of each individual assets were calculated as depicted in Table 4.4.

Firstly, comparing the fixed income assets, government bonds had the highest returns over the period and the lowest variance of 0.38. Treasury bills had the lowest among the three, with an average return of 6.29% and the highest variance of 0.73. In comparing property, rental returns were higher compared to the capital growth of property over the period. Rentals had the lowest variance and highest returns for property at 1.48 and 12.58%, respectively.

Portfolios 1 and 3 resulted in the short sell of treasury bills therefore this asset class was excluded from these portfolios when calculating the variables. The weightings of the assets in each portfolio are shown in Table 4.5.

**Table 4.4 Weighting for each asset class in portfolios**

| | Fixed deposits | Treasury Bills | Government Bonds | Residential Property Rentals | Residential Property Capital Growth | |
|---|---|---|---|---|---|---|
| **Portfolio 1** | 43% | | 57% | | | 100% |
| **Portfolio 2** | 19% | 25% | 18% | 38% | | 100% |
| **Portfolio 3** | 41% | | 21% | 27% | 10% | 100% |

The variables of the efficient portfolios are shown in Table 4.6. Portfolio 2 offers the highest return at 9.3% and a standard deviation of 0.34. The lowest return with the highest standard deviation is observed on the benchmark Portfolio 1, which are 8.07% and 0.66 respectively.

**Table 4.5 Portfolio variables**

| | Portfolio 1 | Portfolio 2 | Portfolio 3 |
|---|---|---|---|
| **Return** | 8.07% | 9.30% | 8.82% |
| **Standard Deviation** | 0.66 | 0.34 | 0.29 |

### 4.3.3 Performance measures

**Table 4.6 Portfolio performance risk return measures**

| | Portfolio 1 | Portfolio 2 | Portfolio 3 |
|---|---|---|---|
| **Variance ($V_p$)** | 0.43 | 0.11 | 0.08 |
| **Sharpe Ratio($R_f$ =0)** | 12.26 | 27.76 | 30.88 |

Portfolio 3 had the lowest variance and the highest Sharpe ratio; Portfolio 1 had the lowest Sharpe ratio and highest volatility among the three portfolios at 0.43.

## 4.4 CONCLUSION

This chapter outlined the research findings for the study. The financial products available to stokvels were analysed. Majority of the products offered to the stokvel market are savings accounts that have guaranteed returns depending on the deposited amount and savings period. The guaranteed returns offered by the financial institutions for stokvel products range between 0.05% and 3.05%. Other products which offer competitive interest rates for the stokvel market were identified.

The results obtained from constructing portfolios that included fixed income assets and property were analysed. The efficient portfolios constructed were compared to each other in terms of their portfolio variables and risk return measures. The inclusion of property resulted in higher returns in portfolios that included property compared to the benchmark portfolio. The next chapter will present a discussion on the research findings and offer a conclusion to the research study.

# CHAPTER 5 - RESEARCH DISCUSSION AND CONCLUSION

This section will review the research findings and conclude the research. The aim of the research was to identify if property is a viable investment option for stokvels in South Africa. The second objective of the research was to review available financial products for stokvels in South Africa.

## 5.1 DISCUSSION

The research results suggest that direct property investment is a feasible investment option for ROSCAs in South Africa and can result in increased returns when included in a mixed asset portfolio. The study also found that banking institutions dominate with products for ROSCAs, which are similar across banks and are low risk.

### 5. 1.1 Investment and savings products for ROSCAs in South Africa

The products and services offered by banks concentrate mainly on governance related factors and providing transparency to all members regarding the activities of the group account. This in line with findings by Muluadzi (2017) who posited that banks play the role of a governance gatekeeper for stokvels, while not fully understanding the goals of the association. Banks also offer transparency to all members, therefore dealing with any information asymmetries of only key members knowing and handling the group finances.

The accounts offered by banks are mainly savings accounts, with interest returns that are relatively low compared to those offered by notice accounts. Notice account interest rates are linked to the notice (savings) period, therefore offering the option to align the savings period to the notice period. The longer the selected notice period, the higher the interest offered. A study by African Response (2018), found that notice accounts were the most used accounts by stokvels. The popularity could be linked to the ability to align the notice period to the stokvel lifecycle, and the higher interest offered on these accounts compared to the stokvel savings accounts.

Based on the vanilla structure of the group accounts offered by the banks, the products are low risk and offer low returns. The capital deposited is guaranteed and interest is earned on the deposited amount. The similarities of the product offerings across the banks offer no product diversity. Literature on the risk tolerance of stokvels show that stokvels are generally risk adverse associations, however, as the association evolves and is exposed to financial education, the risk profile can change. Stokvel accounts have been available in the personal banking

industry in South Africa for years, however, the products and services have remained static, yet these groups are evolving.

Although banks dominate with products offered to group savers, other financial institutions such as asset management and FinTech companies also have offerings for the associations. The investment accounts offered by asset management companies to stokvels are more complex in nature and require an understanding of investments. The investment accounts also offer exposure to different asset classes through unit trusts and EFTs/ETNs, with the lowest monthly contribution being R300 to the investment. The monthly contribution for these investment accounts is below the average monthly contribution in stokvels and therefore can be used by these groups. The risk associated with these investments is higher than those of savings and notice accounts, as the returns are dependent on the market performance of the unit trusts and ETFs/ETNs selected.

During the investigation of this paper, financial products that could be utilised by stokvels were identified. These are not specifically tailored and marketed to stokvels, but the structure and requirements are suitable for stokvels. The financial institutions that offer these products include a fully digital bank and two banks which were huge players in the microfinancing sector in South Africa. These products offer higher interest returns than those currently offered to stokvel accounts in the personal banking sector, at the same risk level. This in line with findings by Nkosi (2018), that digital banks and FinTech companies can offer better rates for similar products in the market and this could be a result of the lack of collaboration between FinTech companies and banks in South Africa.

From the literature and investigation on financial products for ROSCAs in South Africa, the following can be deduced:

- Savings and investment products are available for stokvels in the South African market. The difference between the available savings accounts in the market is minimal and provides limited product choice for stokvels. Products offered by asset management companies require an understanding of investments or the appointment of a financial adviser.
- ROSCAs are regarded as risk adverse organisations, however, they can change their risk profiles as the organisation evolves with different membership and financial education. Savings accounts at banks have lower risk compared to investment accounts at asset management companies.

The products offered by the banking sector align with stokvels that require banking services for a short term, governance adherence, and transparency on group funds. Associations that have the same requirements and want competitive returns should consider other products available in the market, as identified in this study. Different financial institutions in the market are offering products which can be used by stokvels and have the potential to increase market share from the dominate personal banking industry. The products offered by asset management companies could yield higher returns for group savers. These investment accounts would align with stokvels that have a longer investment period and understand different investment types or can appoint an adviser.

### 5.1.2 Property as an investment option for ROSCAs

Property is regarded as a growth asset, and has a higher risk-return compared to bank deposits. Considering the risk profile of ROSCAs who are regarded as risk adverse associations, a base portfolio was constructed with interest bearing assets. Property returns were then added to the portfolio to determine if a mixed asset portfolio including property would result in increased returns.

**Portfolio comparison and discussion**

*Portfolio 1*: Fixed deposits and government bonds returns.

*Portfolio 2*: Fixed deposits, government bonds, and residential property rental returns.

*Portfolio 3*: Fixed deposits, government bonds, property rental and residential property growth returns.

The results show that the inclusion of property resulted in higher returns being observed in Portfolios 2 and 3, when compared to Portfolio 1. The standard deviation used as a measure of risk, indicated that Portfolio 1 with interest bearing assets only, had the highest risk but the inclusion of property resulted in a lower risk observed in Portfolios 2 and 3. Portfolio 3 had the lowest variance among the portfolios, indicating the lowest risk. The Sharpe ratio was used as a risk-adjusted return measure, and the ratio increased as property was included, with Portfolio 3 having the highest Sharpe ratio. The mixed asset portfolio with property, as indicated in Portfolio 3 resulted in higher returns and a lower risk, when compared to Portfolio 1. The results are similar to those of Keng and Hwa (2004) in Malaysia, where residential property was included in a mixed asset portfolio and resulted in higher returns.

Individually over the data period, property had high returns, however, at a higher risk compared to other assets in the portfolios. Within a mixed asset portfolio, the risk is reduced. The inclusion of interest-bearing assets in the portfolio is in line with the liquidity requirement of ROSCAs. ROSCAs looking to invest and still have consumption and social objectives, require access to group funds which is provided by the group accounts in the banking sector. Stokvels wanting exposure to other interest bearing assets can do so through investments in money market and bond unit trust funds offered by asset management companies in a group account. Therefore, in addition to existing financial products in the market, the inclusion of property in the portfolio of a stokvel can result in increased returns.

The results have indicated that property can result in increased returns and the main source of returns for property investment is rental income. Old Mutual (2019) identified three type of property stokvels emerging in South Africa, wealth creation stokvels, home ownership stokvels, and building material stokvels. Wealth creation stokvels and building material stokvels could benefit from increased returns from property investment.

Building material stokvels rotate funds to acquire building materials for the extension or renovation of a participant's property. Stokvel members can mobilise stokvel funds towards the construction of rental properties on their land, known as backyard rentals, to acquire property rental returns. Funding for this type of development from a formal institution would require formal house development plans, proof of income and collateral. The rental income from the backyard rooms would then provide each member with consistent income. This assists with the capital cost of acquiring land, as each member would be developing on their own existing land. These informal backyard room rentals are increasing in South Africa due to the demand for affordable housing near towns and cities. This could also result in increased numbers above those planned by policymakers in certain geographical areas, leading to an increase in demand for services.

The goal of a wealth creation property stokvel is to construct a property investment portfolio. Depending on the group's goals, the construction of a property investment portfolio can be done through direct or indirect property investing. Through direct property investing, specifically residential property acquisition, stokvels can mobilise accumulated contributions to acquire property in cash, for rentals. Stokvels can also build on acquired land and construct multiple units for rentals, as identified by Scheba and Turok (2020), to be entrepreneurial landlordism.

Through the construction of multiple units such as micro-flats, wealth creation stokvels are able to acquire rental returns that can be shared according to the investment contributions with each member. This type of property acquisition is on a larger scale compared to backyard rooms, therefore requires active property management. The success of this buy-to-rent entrepreneurial approach is dependent on active property and financial management.

Residential property investment can result in increased returns for ROSCAs in South Africa. This association can still have deposit accounts while invested in property for the liquidity requirements of the group.

## 5.2 CONCLUSION

Based on the structure, contributions and risk profile of ROSCAs in South Africa, this study has found that residential property investment can be a viable investment for these associations. However, there should be careful consideration for the type of residential property investment approach taken by the association.

### 5.2.1 Key findings

The personal banking industry in South Africa is dominated with product offerings to the stokvel market. There is a lack of product diversity as these are vanilla across all banks offering a group account. Other financial institutions are offering products that align to the structure of a stokvel and provide competitive returns, when compared to those in the personal banking industry. The inclusion of direct property as an investment class can result in increased returns for stokvels, where the main source of the property returns is rental income. There are risks associated with property investment, however, if included in a mixed investment portfolio, the risk is reduced. ROSCAs can utilize the accounts offered by the banking sector to meet their liquidity requirements and the investment in property for increased returns. The type of property investing is important and should be aligned to group structure, goals, affordability, risk level and ability to actively manage direct property in order for the investment to be successful.

### 5.2.2 Recommendations

The study has provided findings relating to the Rotating Savings and Credit Associations in South Africa possibly expanding their portfolios to include property investment. Although a majority of stokvels in South Africa remain unbanked, this market is significant in size and these associations are evolving from pure consumption activities to hybrid activities including

investment goals. The increased interest and growth in property stokvels in South Africa has shown that stokvel participants are mobilising funds through pooled savings to achieve economies of scale to acquire assets and create wealth. Below are recommendations for stokvels, formal financial institutions, and policymakers.

***Property stokvel participants***

Different types of property stokvels are booming in South Africa and on social media, as stokvels grow and break geographical boundaries. Potential participants need to fully understand the type of property invested in, the goals, risks, and legal implications of joining a property stokvel. Stokvels looking to evolve and invest in different asset classes including property, need to do research and align the investment approach to the group's affordability before deciding on direct or indirect property investments. Having a mixed asset portfolio can result in increased returns while keeping interest bearing accounts for the liquidity requirements of members and property operations. Property management skills are required for larger scale property management, and groups need to take this into account when taking the buy-to-rent entrepreneurial approach.

***Financial institutions***

Stokvel accounts have been available in the personal banking industry in South Africa for years, however, the product offering has remained static, yet these groups are evolving bodies. Product development and collaboration with other organisations such as FinTech and telecommunications companies should be a consideration to grow product offerings. Personal banking institutions have a wider geographical footprint in South Africa compared to other institutions, and should use this advantage to educate the ROSCAs in different areas to increase financial inclusion. Services related to financial management and advice on different investment types should be marketed more to stokvels at affordable rates to help educate these associations on investing in mixed asset portfolios.

***Policymakers***

The growth and size of the stokvel market in South Africa calls for policymakers to intervene and assist these associations. Stokvels are involving into entrepreneurial and investment activities, and policymakers can assist these associations by erecting the appropriate governance structures for their benefit. ROSCAs form part of the informal market and investment activities in the informal sector by these associations can play a role in growing that

sector and stimulate job creation. Some growth in the informal sector such as the increase in backyard room rentals could result in increased demand for services. Education, easily accessible information, and guidance at a local government level on how to expand on current properties is required. Collaborations with the private sector and stokvel representatives such as the National Stokvel Association of South Africa can help develop financial products for stokvels to meet their needs.

### 5.2.3 Limitations of study

The study had limitations, which are discussed below:

The data on the risk levels of stokvels was collected from previous literature and was based on the products available to these associations in the market. Interviews with stokvels that have an investment objective and property stokvels would have provided more insight on the risk appetite, factors that drive investment approach, experiences with financial institutions and property management.

### 2.3.4 Suggestions for future research

This research contributes to the literature on stokvels as investors and entrepreneurs in South Africa. Specifically, showing that stokvels do not require high budgets to acquire exposure to property as an investment class and can have a mixed portfolio that can still meet their liquidity requirements.

- An investigation on investment stokvels with low budgets on the type of investments they have succeeded with, which have produced sustainable returns.
- An understanding of the lack of development in the product offerings to stokvels by formal financial institutions in South Africa: From the perspective of the financial institution.
- An investigation on informal sector property entrepreneurs and collaboration with other informal groups such as stokvels.

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# APPENDICES

## 1. Largest townships in South Africa

| | |
|---|---|
| 1 | Soweto |
| 2 | Tembisa |
| 3 | Katlehong |
| 4 | Umlazi |
| 5 | Soshanguve |
| 6 | Khayelitsha |
| 7 | Mamelodi |
| 8 | Mitchell's Plain |
| 9 | Ibhayi |
| 10 | Sebokeng |

***(Source: Stats SA)***

## 2. Variance-Covariance Matrices – excluding short sells

### Portfolio 1

| | **Fixed deposits** | **Government Bonds** |
|---|---|---|
| **Fixed deposits** | 0.670490826 | 0.384364299 |
| **Government Bonds** | 0.384364299 | 0.376524993 |

### Portfolio 2

| | Fixed deposits | Treasury Bills | Government Bonds | Property Rentals |
|---|---|---|---|---|
| Fixed deposits | 0.670491 | 0.668826 | 0.384364 | -0.72225 |
| Treasury Bills | 0.668826 | 0.733535 | 0.418233 | -0.81673 |
| Government Bonds | 0.384364 | 0.418233 | 0.376525 | -0.37533 |
| Property Rentals | -0.72225 | -0.81673 | -0.37533 | 1.478186 |

**Portfolio 3**

| | Fixed deposits | Government Bonds | Property Rentals | Property Capital Growth |
|---|---|---|---|---|
| Fixed deposits | 0.670491 | 0.384364 | -0.72225 | -0.58282 |
| Government Bonds | 0.384364 | 0.376525 | -0.37533 | -0.38149 |
| Property Rentals | -0.72225 | -0.37533 | 1.478186 | 0.38785 |
| Property Capital Growth | -0.58282 | -0.38149 | 0.38785 | 2.252875 |