

An analysis of the profitability and sustainability of savings and credit co-operatives in Botswana

A Dissertation

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ABSTRACT

Since the 2008 financial crisis, global attention has been drawn to co-operatives, owing to their resilience and ability to flourish during tough economic conditions. The potential of co-operatives as a catalyst for sustainable development is of particular interest to a country like Botswana, where the economy is heavily reliant on a single commodity trade and there is potential for greater participation of the citizens in economic and social development of the country. The growing participation of co-operatives, particularly savings and credit co-operatives (SACCOs), has proved to be a channel for increasing access to finance for the traditionally unbanked, a reduction in poverty levels, and continued socioeconomic development across the African continent. In Botswana, however, only 26% of co-operatives are profitable, while 30% operate at a loss or break even. This necessitates an empirical investigation into the performance (profitability and sustainability) of SACCOs in Botswana. Literature presents various views regarding the determinants of profitability of SACCOs; these include the selection of a skilled management committee, the clear articulation of and compliance with a credit policy, the presence of a savings culture in the area of operation, sound corporate governance, credit default rates, membership numbers and members' level of financial literacy. This study ascertains the key determinants of the profitability and sustainability of SACCOs in Botswana and the extent to which these factors influence the SACCOs' operational self-sufficiency (OSS). The population included 39 SACCOs from eight regions across the country. The independent variables chosen were return on assets, deposit mobilisation, current ratio, capital structure, and membership size. Panel data analysis for financial data collected over 10 years (2005 to 2015) for all registered SACCOs was used. The study revealed that return on assets and capital structure were significantly and positively related to OSS, which was generally consistent with literature. Size and liquidity were found to be statistically insignificant determinants of OSS. A finding unique to this study, and contrary to literature, was the negative relationship observed between deposit mobilisation and OSS. Informed by the findings of the study, the main recommendations are that members of SACCOs as well as regulators should ensure that management provides a clear investment strategy that shows consideration for revenue diversification. The Ministry of Investment, Trade and Industry should also channel resources into implementing supporting policies and legislature for SACCOs, such as the Co-operative Transformation Strategy, to enable these entities to thrive.

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GLOSSARY OF TERMS

ANCOVA	Analysis of Covariance
EACB	European Association of Co-operative Banks
FSS	Financial Self-Sufficiency
GDP	Gross Domestic Product
ICA	International Co-operative Alliance
ILO	International Labour Organization
LCT	Life Cycle Theory
MFI	Micro Finance Institution
MITI	Ministry of Investment, Trade and Industry
MPCM	Multi-Purpose Co-operative providing Microfinance Ministry
MPT	Modern Portfolio Theory
OSS	Operational Self-Sufficiency
ROA	Return on Assets
SCA	Savings and Credit Association
SACCO	Savings and Credit Co-operative
UN	United Nations

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Indeed, “Education is the most powerful weapon which you can use to change the world” (Nelson Mandela).

CHAPTER 1

INTRODUCTION

1.1 Background of the Study Research Area

Since the 2008 financial crisis, global attention has been drawn towards co-operatives, owing to their resilience and ability to flourish during tough economic conditions. The Director General of the International Labour Organization (ILO), Guy Ryder (as quoted in Dale et al., 2013), stated that “As global attention focuses on the challenge of sustainable development, co-operatives can and must play a key role as creative enterprises expanding into new and innovative areas”. In the developing world, co-operatives have been a catalyst for growing access to finance for the poor, reduction in poverty levels, and continued socioeconomic development. In Africa, co-operatives have endured decades of mismanagement, political interference and failure, but have, nonetheless, remained resilient (Wanyama, Develtere & Pollet, 2008).

The potential of co-operatives as a catalyst for sustainable development is of particular interest to a country like Botswana that has relied on mining revenue as the backbone of the economy since independence in 1966. Overreliance on a single commodity has made the country’s economy highly susceptible to external shocks emanating from commodity price fluctuations, as evidenced by the challenges presented by the 2008 global financial meltdown. The government considers co-operatives an integral part of facilitating entrepreneurship and empowering ordinary citizens to participate in the country’s economic and social development (Seleke & Lekorwe, 2010). In their paper on co-operatives and development, Seleke and Lekorwe (2010) noted that “At the apex level, the co-operative movement is faced with serious challenges - that is, they are basically struggling for survival”. For co-operatives to effectively contribute to the economy, they need to be commercially viable and financially sustainable (Nyamsogoro, 2010b).

Co-operative societies were first established in Botswana in 1964 (Ministry of Trade and Industry, 2012). Since independence in 1966, the number of registered co-operative societies has grown steadily from 19 to 224 as at October 2015, with a total of 112,405 members. This number is made up of 169 trading primary co-operatives, 51 savings and credit co-operatives (SACCOs) and 4 secondary societies (Ministry of Trade and Industry, 2015).

As at August 2015, trading co-operatives had a turnover of more than P128 million with a net loss of P598 232, predominantly a result of weak market penetration coupled with a tough operating environment. SACCOs, on the other hand, had a turnover of P72 million with a net profit exceeding P20 million (Seleke & Lekorwe, 2010).

In a developed country like the United States of America, co-operatives represent 1% of the country's Gross Domestic Product (GDP) and account for more than \$654 billion in revenue. Globally, as at the end of 2013, co-operatives collectively employed over 100 million people (Gordon, 2014). In Africa, however, literature on the profitability and sustainability of microfinance institutions is scarce and has contrasting conclusions. Adongo and Stork (as cited in Marwa & Aziakpono, 2015) found that, in Namibia, a majority of microfinanciers are unsustainable. Thapa (2002), on the extreme, posits that MFIs are profitable in all developing regions, with Africa as the exception. There is literature on the continent that contradicts this. Nyamsogoro (2010a) and Olomi (as cited in Aziakpono, 2015) found that, in Tanzania and Kenya, the average sustainability of microfinance institutions was 80.2% and 98% respectively.

The status quo in Botswana is that only 26% of co-operatives are profitable, 30% operate at a loss or break even, 22% are under revival, 12% never operated or are dormant, and 10% are newly registered co-operatives that have not yet commenced operation (Ministry of Trade and Industry, 2015). This extremely low success rate warrants an investigation into the profitability and sustainability of co-operatives in Botswana.

In 2015, 50% of Botswana's population was banked, up from 45% in 2009 (Finscope, 2015); 39% of the unbanked population utilise informal avenues to access credit and manage their finances. SACCOs play an integral role in the provision of financial services to low income earners and those in villages, and provide an avenue for their members to gain access to savings and credit services. In the recent past, SACCOs have witnessed faster growth than other co-operatives. This study seeks to undertake an empirical investigation of the profitability and sustainability of SACCOs in Botswana. The research questions will be centred on whether or not SACCOs are sustainable and profitable, and on identifying the drivers of profitability and sustainability among SACCOs in Botswana. Findings will allow policymakers, regulators and shareholders to better manage these entities and create an economic and regulatory environment conducive to their growth.

1.2 Problem Statement

The government of Botswana's priority over the last decade has been the implementation of numerous programmes, policies and strategies targeted at achieving economic diversification. Despite these efforts, private sector contribution to economic growth remains shallow and narrow, with its operations highly reliant on public expenditure (Sekwati, 2010).

In order to achieve economic development, Botswana's economy is dependent on the contribution made by the private sector. Similarly, private sector contribution is determined by the efficient performance of enterprises within the private sector in relation to profitability, management and production (Sathyamoorthi et al., 2016).

SACCOs have a pivotal role to play in the diversification agenda, in creating employment and in poverty alleviation in Botswana. This potential necessitates efforts to resuscitate, redirect and revamp the development of SACCOs and ensure their long-term sustainability.

The Department of Co-operatives reports that only 26% of co-operatives in Botswana are profit-making. This reality has led to the collapse of many of the co-operatives over the years, despite the numerous subsidies, grants and programmes the government has extended to create an enabling environment for their growth. The current transformation agenda spearheaded by the Department of Co-operative Development identifies eight pillars of change to resuscitate co-operatives in Botswana: co-operative branding; co-operative growth pillars and linkages; co-operative environment for doing business; co-operative financing and insurance; youth participation in co-operatives; co-operative mindset change; co-operative corporate governance; and member participation and commitment (Ministry of Trade and Industry, 2012). These eight pillars are in place with the main objective of enhancing the profitability and sustainability of co-operatives. This deems the analysis of profitability and sustainability of co-operatives in Botswana relevant and important.

With the exception of Sathyamoorthi et al. (2016) and Seleke and Lekorwe (2010), there is insufficient literature regarding the drivers of these performance metrics for co-operatives in Botswana and no empirical evidence regarding the root cause for their existing low levels of profitability.

1.3 Research Questions and Objectives

1.3.1 Research Questions

The primary research questions are therefore:

- How profitable are SACCOs in Botswana?
- Are SACCOs in Botswana operationally sustainable?
- What is the effect of profitability in driving the sustainability of SACCOs?

1.3.2 Research Objectives

The overarching objective of the study is to examine the profitability and sustainability of SACCOs in Botswana. The specific objectives include:

- Examining the profitability of SACCOs in Botswana
- Examining operational sustainability of SACCOs in Botswana
- Examining the effect of profitability on operational sustainability of SACCOs in Botswana

1.4 Justification of the Research

World over, economic strategists are looking to microfinance, particularly savings and credit co-operatives (SACCOs), as an avenue to improve access to finance at the micro level. Co-operatives have been identified as an economic empowerment platform for those who wouldn't otherwise meet the criteria of participating in services offered by commercial banks. The optimum utilisation of services offered by co-operatives has the potential to make a significant impact on the country's productivity and its level of employment, and to contribute towards poverty alleviation. There is, however, evidence-based knowledge that the majority of these organisations are unsustainable and are running at a loss. Understanding the key drivers of co-operative performance is necessary for effective policy-making, support, regulation and monitoring of these organisations.

If we are going to look at co-operatives as an avenue for economic diversification, we simultaneously need to understand the challenges facing co-operatives in terms of

sustainability, efficiency and profitability. Once these levers are identified, co-operatives can be reengineered to become significant contributors to economic growth.

A clear assessment of profitability and sustainability is key for three reasons:

1. Both are a necessity for organisational longevity and the reliable provision of access to finance to the unbanked.
2. By identifying the drivers of profitability and sustainability regulators, policymakers, researchers and stakeholders in the industry will know which enablers to prioritise in an effort to transform the industry.
3. Findings can be incorporated into the government's Co-operative Transformation Strategy.

1.5 Research Assumptions

The key assumptions made in carrying out the study are that:

- The organisational definition of SACCOs across literature is the same
- Statistics provided by the Ministry of Trade and Industry are accurate
- SACCOs use the same accounting standards, particularly recognition of revenue, to allow for the comparison of financial ratios

1.6 Organisation of the Study

The study has five chapters. Chapter 1 introduces the study and contextualises the investigation by discussing the research area and the problem statement, by stating the research questions and objectives, justifying the research and highlighting any assumptions that will be the foundation of the research. Chapter 2 is a critical analysis on the literature around the topic, highlighting the gap and opportunity to contribute to the knowledge base. Chapter 3 is a discussion of the research methodology, the approach taken for the study, data collection and choice of data, sampling methodology, data analysis methods, research reliability and validity, and highlights any limitations to the study. Chapter 4 is a discussion of findings, and Chapter 5 concludes and provides recommendations for further study.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of the literature on co-operatives. It covers the discussion of both theoretical and empirical studies on sustainability of co-operatives, includes sections on the unique business and operating model used by co-operatives, and is a presentation of the various types of co-operatives in Botswana. An overview of the global landscape of co-operatives precedes the definition of the concepts of profitability and sustainability which set a foundation for the crux of the study, in the context of Botswana.

A thorough analysis is done on the co-operative landscape in Botswana, analysing the co-operatives' financial performance and operational status. The agency theory, stakeholder theory, modern portfolio theory and life cycle theory are evidenced as supporting theoretical models in analysing the profitability and sustainability of SACCOS. In conclusion, empirical evidence relating to the diverse findings on the profitability and sustainability of SACCOS across the African continent is presented. The literature review reiterates the knowledge gap to be addressed by the study.

2.2 Co-operative Business

Co-operatives represent a legal and organisational structure that was conceptualised, to a great extent, by Friedrich Wilhelm Raiffeisen (1818-1888) in Germany, over 170 years ago. The ILO, in line with the principles established by Raiffeisen, has given an internationally accepted definition of co-operatives as “an independent association of individuals who have united on a voluntary basis, in order to fulfil or achieve their shared economic, social and cultural needs and objectives, respectively, within a collectively owned and democratically managed enterprise” (IRU & Raiffeisen, 2014).

Fried, Knox Lovell and Eeckaut (1993) add that this association is largely community based and shareholders are often members of society, with an association either residential, professional or social, who voluntarily subscribe to the organisation with the common goal of

receiving both social and financial benefits. Botswana's Co-operative Act of 1989 describes a co-operative as an organisation whose principal objective is to promote the economic interests of its members in accordance with the principles provided by the International Co-operative Alliance (ICA). These core principles, as highlighted by Smith (2014), include democratic control, member economic participation, voluntary and open membership, education, training and information, autonomy and independence, concern for community, and cooperation among co-operatives. The ICA (2005) further states that co-operative business is driven by values and not just profit. The operating model strives to encourage the values of self-help, self-responsibility and co-operation with others (Ministry of Trade and Industry, 2012).

2.3 Types of Co-operatives

The type of co-operative formed is largely dependent on the problem it is trying to solve. McLeod (2006) lists various reasons for forming a co-operative, namely, lack of access to certain types of goods, unemployment/job losses, poor price for produce, poor market access and, more commonly, lack of (or the need for) access to a savings and credit facility. His paper on *Types of Co-operatives* lists consumer co-operatives (owned by the people who do business there), worker co-operatives (businesses owned by the employees), producer co-operatives (owned by people who produce the same types of goods), purchasing/services (used by independent business owners to raise their visibility and cut costs for services such as payroll and insurance) and housing co-operatives (houses owned by the residents, engaged in property development and maintenance of buildings).

In addition to these, the *Botswana Co-operative Transformation Strategy* (Ministry of Trade and Industry, 2012) identifies other types of co-operatives, such as marketing co-operatives (which serve the purpose of processing, marketing and distributing goods produced by members of the co-operative either individually or collectively), multipurpose co-operatives (which are hybrids of consumer and marketing co-operatives) and savings and credit co-operatives (where members pool their savings with the aim of obtaining loans at lower interest rates from their pooled resources for provident and productive purposes).

Savings and credit co-operatives, commonly known as SACCOs, are a form of financial co-operative. As explained by Churchill (2013), financial co-operatives are comparable to a

large, legally registered savings and credit association. Churchill's study notes that SACCOs vary in size, from those that have only a handful of members to those whose membership is in the thousands.

2.4 SACCOs' / Co-operative Operating Model

Churchill (2013) identifies the primary role of co-operatives, particularly in rural markets, as that of facilitating access to both credit and savings services to allow the efficient circulation of resources within a community. SACCOs create a platform for those with excess liquidity to deposit into common pool funds, which are then redistributed as credit to those with a deficit. Members of SACCOs are simultaneously investors, business partners and decision makers. Although SACCOs primarily pursue economic goals and objectives, they may, directly or indirectly, serve cultural and social needs (IRU & Raiffeisen, 2014).

Efficient SACCOs often provide loans at interest rates that are lower than other micro-finance institutions. Profitable SACCOs reinvest their excess earnings back into the funding pool or distribute them to their members in the form of dividends, often based on their average balances or share ownership (Mazūre, 2011). This model of operation translates to more affordable credit or higher interest on savings compared with other financial institutions.

Birchall and Ketilson (2009) simplify the co-operative business model by describing it as "members, who include both savers and borrowers, using the co-operative to recycle money from those who have it to those who need it, without anybody outside taking a profit and with interest rates set so that the system works in everyone's interest" (p. 3).

SACCOs are governed under the law of the country and are liable to pay tax where required. The board of directors is often elected from the members and is on a volunteer basis. As with other microfinance institutions, governance remains one of the greatest challenges faced by SACCOs (Churchill, 2013).

The organisational structure of co-operatives itself presents an inherent risk to its sustainability. Marwa (2015) posits that because of the homogeneity of members, co-operatives tend to be overexposed to systematic risk. The social exclusivity of the

membership hampers prospects of growth, which keeps them from enjoying economies of scale and acquiring a diverse talent pool for the management and operation of the organisation. In his study of co-operatives in Tanzania, Marwa (2015) found that the primary drivers of performance for co-operatives were effective management and good governance and that diversification of services provided played a significant role in driving financial sustainability. Similarly, he discovered that some of the aspects impeding co-operative sustainability were lack of financial literacy, capital constraints and agency problems.

2.5 Global Landscape of Co-operatives

The modern co-operative model as we know it today was birthed in 1844 by Friedrich Wilhelm Raiffeisen in rural Germany, as a response to the dire financial hardship faced by Germany's rural population resulting from the country's economic and political structures. Barigye et al. (2006) posit that the first credit union was established to cater for a population who were considered unbankable due to very small, erratic flows of income. The co-operative model began to spread across Europe in the mid-19th century against the backdrop of socio-political difficulties that were the result of war and economic instability. This model continued to exist in one form or another throughout history based on the premise that human beings, in their individual capacity, lack the power to consistently and successfully overcome life's adversities and can thus achieve more as an organised co-operative (IRU & Raiffeisen, 2014). The movement proliferated throughout Europe, Asia and Latin America and was introduced to Africa by a Catholic bishop in Ghana in 1930 (Hezron & Muturi, 2015). Ghanaian farmers leveraged the co-operative model for producing and selling cash crops like pyrethrum and coffee. Due to its success in Ghana, the co-operative model was subsequently replicated across the African continent.

Globally, co-operatives act as a source of shelter, employment, representation, food and credit. The United Nations (as cited in Smith, 2014) estimates that co-operatives impact the livelihoods of three billion people globally. Additionally, its statistics show that at least one hundred million people are employed by co-operatives and one billion people are members of them.

Co-operatives make up between 3% and 3.5% of global GDP. In countries like Kenya and New Zealand, co-operatives contribute significantly to the countries' economies, making up 45% and 22% of GDP respectively (UN, 2009).

In Europe, co-operative banks represent 850,000 employees and 56 million members, and have an average market share of 20% in the financial industry (EACB, 2017). These co-operatives run almost 4,000 locally operating banks and 71,000 outlets, and serve more than 215 million customers, who are mainly consumers, small and medium enterprises and communities (ILO as cited in Smith, 2014).

On the African continent, Kenya has one of the most vibrant co-operative environments, with more than 10,000 registered co-operatives, of which about 4,000 are SACCOs. In total, co-operatives make up about 43% of Kenya's GDP. Another great success story comes from Tanzania, where there is a co-operative university (Moshi University College of Co-operative and Business Studies) that trains the co-operative employees, members and the community at large on co-operative development and philosophy as well as general entrepreneurship. In South Africa, the promulgation of the Co-operative Act of South Africa in 2005 resulted in the number of registered co-operatives growing exponentially from a mere 4,000 to approximately 50,000 by the end of 2012 (Derr, 2013). ICA research found that there are more than 2,000 co-operatives in 56 countries that have a combined turnover of US\$ 2,578.5 billion.

2.6 Profitability and Sustainability

The primary objective of any business activity is to maximise shareholders' value through maximising profit. GAAP (2017) defines profitability as total earnings for doing business net of operating expenses, depreciation of assets, interest and tax. Hopkins (1933) further defines profit as the reward for risk-bearing in undertaking a business activity.

As defined by Kimando, Kihoro and Njogu (2012), sustainability in the general sense refers to the ability of a given activity to continue into the future within the likely resources of an organisation. In financial terms, sustainability refers to an organisation's ability to service all of its expenses through its generated income. Sarma (2011) corroborates this definition by adding that microfinance institutions can be said to be sustainable when their operating

income from issuing loans is sufficient to cover all operating costs. In the case of microfinance institutions, the definition is extended to cover the ability to continue operations once grants and soft loans to the organisation are withdrawn.

Shah (as cited in Kimando, 2012) believes that the “accounting approach” to defining sustainability is too narrow and adopts the “integrated approach”. Hence, Shah presents the concept of sustainability as including the ability to mobilise local resources and obtain funds at market rate.

After extensive consideration in various forms, scholars and experts agree on two levels of sustainability: operational self-sufficiency (OSS) and financial self-sufficiency (FSS) (Iezza, 2010). Financial sustainability is, however, a necessary condition for institutional/operational sustainability.

2.7 Overview of Co-operatives in Botswana

Co-operatives were introduced in Botswana in the 1960s during the colonial period in response to the needs of the British colonial regime. In 1962, the government of Botswana enacted the Co-operative Societies Law which founded a two-tier co-operative structure in the country, namely primary and secondary co-operatives (Government of Botswana, 1989). The primary co-operatives are made up of producer, marketing, multipurpose, consumer, and savings and credit co-operatives (Government of Botswana, 1985). The secondary co-operatives are supporting structures to the primary co-operatives by providing them with loans and support services. The two structures of the tier are, however, not dependent on each other to efficiently perform their functions. The law further provided for two principal organisations, the Department of Co-operatives and the Co-operative Movement.

The institutional SACCOs were organised by individuals who were excluded from the formal banking sector, without access to credit and employed by the same institution. These became instantly popular and proliferated across the economy, catering to various groups of salaried individuals (Seleke & Lekorwe, 2010). The rural SACCOs had extremely low survival rates due to their lack of emphasis on cultivating a savings culture (Sathyamoorthi et al., 2016).

In 1968, Botswana joined the ICA and, henceforth, the development of co-operatives was guided by the principles of the ICA in conjunction with the Co-operative Societies Act. The governing and administrative body of co-operatives in the country is the Department of Co-operative Development which was set up in 1963 and whose objectives are:

- Promotion of growth and development of co-operatives
- Supervision and audit of primary co-operatives
- Provision of technical advice
- Provision of education and training

Unlike in many places in Africa, SACCOs in Botswana cater to formally employed people as a savings avenue. Most of these individuals have access to formal financial services, but are attracted to SACCOs because of high deposit interest rates and flexible loan procedures, particularly lack of collateral and extensive documentation. This is an avenue used by many for emergency funds, which they might otherwise not be able to get from a bank given the length of their underwriting processes and requirements.

Banks also have debt coverage ratios, and one who has reached the limit of his or her committable salary may still have access to funds from SACCOs, as the majority do not consider other debts as part of their loan-granting process, but rather the consistency of deposits. This flexibility is a unique niche for SACCOs. Additionally, unlike commercial banks, SACCOs' services are extended to non-salaried individuals.

Modukanele (2005) (as cited in Seleke & Lekorwe, 2010) finds that there was a phenomenal growth in co-operatives between 1964 and 1978, particularly agricultural co-operatives that were popular in facilitating agricultural trade, and consumer co-operatives. This growth was evidenced by the growth in livestock sales from US\$ 12,560 to US\$ 54,000 in 1972. Consumer co-operatives reported a turnover of US\$ 86,365 in 1974 which rose to US\$ 917,140 by 1978. Agricultural/Livestock co-operatives were popular as they allowed farmers to enjoy economies of scale and reduce their marketing expenses.

Producer co-operatives emerged in the 1990s, motivated by the government in an attempt to diversify the existing agricultural co-operatives. Producer co-operatives were meant to

encourage profitable agricultural activities and to create gainful employment that would improve the standard of living in the communities within which co-operatives were budding.

The 1970s and 1980s growth tides slowed down in the 1990s, and we began to see stagnation in the number of co-operatives (depicted in Table 1).

Table 1: Co-operatives registered in Botswana between 1996 and 2002

	1996	1997	1998	1999	2000	2001	2002
<i>Consumer</i>	12	12	12	12	12	12	12
<i>Multipurpose</i>	62	67	67	68	68	67	67
<i>Marketing</i>	16	16	15	15	15	16	16
<i>Producers</i>	3	3	8	8	8	3	4
<i>Savings and Credit</i>	38	42	42	42	42	42	45
<i>Secondary</i>	3	3	2	3	3	3	3
<i>Totals</i>	134	143	146	148	148	143	147

Source: Department of Co-operative Development, Annual Reports 1995/96, 1999/2000, 2000/01, 2001/02 (as cited in Seleke & Lekorwe, 2010).

Over the seven-year period, the number of co-operatives increased marginally, from 134 in 1996 to 147 in 2002. Similarly, as depicted in Table 2, membership numbers grew in a sluggish manner, discounting for the data issues that transpired in 2000.

Table 2: Co-operative membership in Botswana between 1996 and 2002

	1996	1997	1998	1999	2000	2001	2002
<i>Consumer</i>	27,514	28,643	25,088	20,328	19,130	30,510	30,866
<i>Multipurpose</i>	38,099	32,039	33,669	21,428	15,311	41,649	42,151
<i>Marketing</i>	8,151	8,117	7,865	7,850	8,025	7,875	7,720
<i>Producers</i>	52	47	47	50	52	755	753
<i>Savings and Credit</i>	6,343	6,352	9,079	7,843	6,963	10,343	10,701
<i>Totals</i>	80,159	75,198	75,748	57,499	49,481	91,132	92,191

Source: Department of Co-operative Development, Annual Reports 1995/96, 1999/2000, 2000/01, 2001/02 (as cited in Seleke & Lekorwe, 2010).

On average, membership numbers are on a decline over the period. It was, however, anticipated that, between 2002 and 2015, co-operatives returned to grow in an upward trajectory with a significant increase in the number of multipurpose, and savings and credit co-operatives. As of 2015, the Department of Co-operatives reported 241 registered co-operative societies in Botswana: 169 Trading Primary Co-operatives, 68 Savings and Credit Co-operatives, and four Secondary Societies. Membership currently stands at 86,300 and P13 780 087 share capital has been invested in the societies, which employ 805 people countrywide (Government of Botswana, 2016).

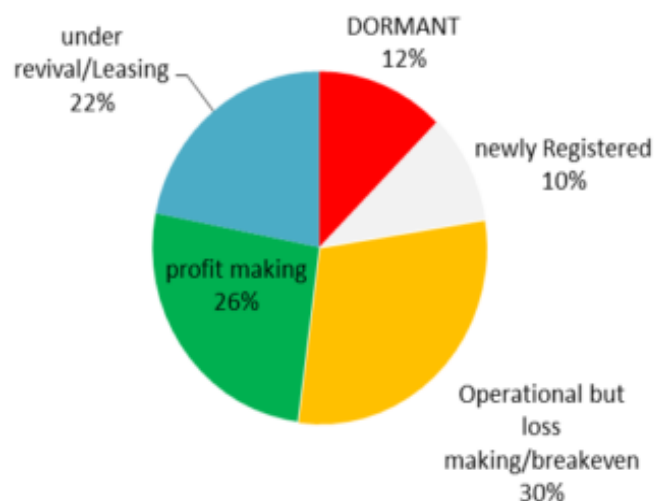
2.8 Financial Performance of Co-operatives in Botswana

Statistics provided by the Department of Co-operatives in its 2012 transformation strategy show that the profitability and sustainability of the co-operative movement in Botswana is under strain. The most adversely affected by the trend are the trading co-operatives.

Figure 2.8 below illustrates the operational status of co-operatives in Botswana. The majority (30%) are operational but loss-making or only breaking even. Dormant co-operatives and those under revival or lease make up 12% and 22% respectively. Of the registered co-operatives, just over a quarter (26%) are profitable and 10% are newly registered.

Figure 2.8: Overview of co-operative profitability and operational status in Botswana

(Source: Ministry of Trade and Industry, 2012)



2.8.1 Profitability of Trading Societies

Trading co-operatives operate predominantly in livestock marketing, retailing and the production of goods. As depicted in Figure 2.8.1, these co-operatives are barely surviving. A majority of these have had to close down or lease their building in an effort to liquidate debt and potentially resume operations in the future.

Figure 2.8.1: Trading co-operative profitability and operational status in Botswana

(Source: Ministry of Trade and Industry, 2012)



Figure 2.8.1 above depicts that the majority of trading co-operatives (32%) are operational but either loss-making or breaking even. Dormant trading co-operatives and those under revival or lease make up 14% and 29% respectively. Only 13% of trading co-operatives are profit-making and 12% are newly registered.

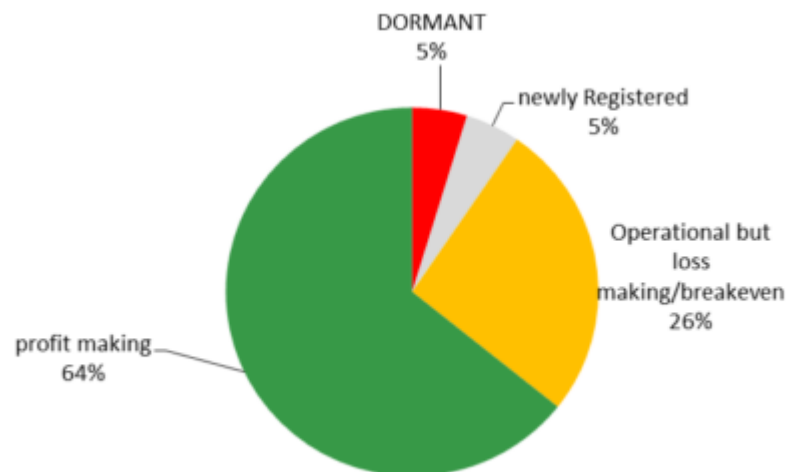
2.8.2 Profitability of SACCOs

Of the two kinds of co-operatives, SACCOs are the most profitable; however, the levels of profitability remain below comparative averages of 80% stated in the literature. The success of SACCOs may be attributed to their sustained relevance in the competitive financial service provision environment, as they offer attractive interest rates and are easier to access, particularly for the low income level of society, who are largely unemployed.

Figure 2.8.2 below illustrates that the majority of SACCOs (64%) are profit-making, 26% are operational but either loss-making or breaking even, and one-tenth are either dormant (5%) or newly registered (5%).

Figure 2.8.2: Profitability and operational status of SACCOs in Botswana

(Source: Ministry of Trade and Industry, 2012)



The government of Botswana has acknowledged the contribution of co-operatives to the nation's economic, cultural and social development and has, through the Ministry of Investment, Trade and Industry (MITI), embarked on a co-operative transformation strategy. This strategy has the objective of resuscitating, revamping and redirecting Botswana's co-operative movement into a profitable and competitive sector of the economy (Government of Botswana, 2016). Efforts to catalyse the development of co-operatives are targeted at extending co-operatives to various sectors of the economy to propel economic diversification and to assist in addressing the pertinent issues of unemployment and poverty alleviation, which are top priorities for the government (Government of Botswana, 2016).

The co-operative movement's ability to have the desired impact is largely dependent on the organisation's economic performance. Any analysis of the potential contribution SACCOs could make to economic development and diversification must be premised on the financial performance and operational sustainability of these entities.

2.9 Theoretical Review: Model for the Sustainability of SACCOs

2.9.1 Agency Theory

Section 49 of the Botswana Co-operatives Act prescribes that a co-operative must appoint a management committee, which is to consist of at least three members in the case of a producer's co-operative and at least five members for any other co-operative (Government of Botswana, 1989). The separation of duties inherent in this operating model leads to a conflict known as the "agency conflict", explained by the agency theory.

The seminal work of Jensen and Meckling (1976) explains the agency relationship as one in which "one party (the principal) delegates work to another (the agent), who performs that work, governed by a contract between the parties". In the structure of a SACCO, the members, who are the owners (principals), appoint agents (management committee) and delegate the responsibility of oversight and decision-making to these individuals, trusting that they will make decisions in the best interests of the co-operative body.

One of the factors contributing to the agency problem is the different levels of risk appetite between the principal and the agent (Eisenhardt, 1989). This could occur when the agent yields to opportunistic behaviour and self-interest, violating the terms of their contract (Hezron & Muturi, 2015). Agents may be influenced by, for example, financial rewards, market opportunities and extra-co-operative relationships that could lead to them acting in ways divergent from the interests of the principal. Agents may also be more risk averse than principals and not pursue potentially profitable activities due to their level of risk, which might not be optimal for the principal.

Information asymmetry is another issue that propels the agency problem (Eisenhardt, 1989), particularly in illiterate/uneducated communities in rural areas. This can occur where the principals are unable to critically vet the financial running of the SACCO, or where agents selectively share information with regard to the operation of the SACCO (The Institute of Chartered Accountants of England and Wales, 2005). Implicit in this theory is that different motivations and information asymmetries lead to the reliability of information, which impacts on the level of trust that principals will have in their agents. This is particularly significant for SACCOs, as they are organisations founded on social capital and mutual trust

among members.

In order to manage the agency problem and align the interests of co-operative members and management committees, contracts are an essential tool. These can be behaviour-oriented contracts, targeted at financial reward and proposing hierarchical governance structures. Contracts can also be outcome oriented, focusing on stock options, commissions, transfer of property rights etc., as a way of governing the agents' behaviour (Eisenhardt, 1989).

In an additional effort to manage the agency problem, SACCOs set the basic salary of committee members relatively low and target reward in the form of share options and performance bonuses (The Institute of Chartered Accountants of England and Wales, 2005). Literature is, however, scarce with regard to punitive measures enforced by members to ensure that committee members act in the best interest of the co-operative.

2.9.2 Stakeholder Theory

The stakeholder theory was pioneered by Edward Freeman in 1984. Freeman (1984) defines stakeholders as a group of people who have a legitimate right with respect to the running of an organisation. The stakeholder theory assumes that values are necessarily and explicitly integral to doing business. It suggests that managers communicate their strategy for doing business and particularly what kinds of relationships they want to build with their stakeholders whilst delivering on their primary purpose, maximising shareholder wealth (Freeman, Wicks, & Parmar, 2004). Stakeholder management is observed to prevent the negative effects of unmanaged conflict of interest among various stakeholders that may stifle the performance of the SACCOs.

Donaldson and Preston (1995) broke down the stakeholder theory into three components: descriptive/empirical, instrumental and normative. The descriptive/empirical element describes how firms or their managers actually behave. The instrumental element describes the consequences of various management behaviours, and the normative theory addresses the moral propriety of the behaviour of firms and/or their managers. These three elements of the theory summarise, respectively, what happens? what happens if? and what should happen?

Freeman (1984) highlights the importance of the SACCO's ability to identify its critical stakeholders and their respective objectives, interests and ability to influence the co-

operative. The SACCO will then need to strategise on how to relate with these stakeholders, and to deduce what decisions best allow the stakeholders' interests to be aligned with the SACCO's objectives.

According to Jensen (2001), SACCOs that build strong relationships with primary stakeholders have a greater probability of earning greater returns. Turban (as cited in Hezron & Muturi, 2015) states that SACCOs that are considered to be socially responsible have a greater ability to attract a skilled workforce. Furthermore, a socially responsible SACCO builds moral capital, which cushions its reputational damage in the event of periodic losses during periods of financial strain. Stakeholder management also has a bearing on a SACCO's ability to attract new members, which in turn translates to growth and profitability (Jones, 1995). SACCO managers therefore need to be cognisant of the interests of all stakeholders in making decisions, as stakeholder interests have the ability to affect the value of the organisation, and no sets of interest are assumed to dominate others.

2.9.3 Modern Portfolio Theory

The Modern Portfolio Theory (MPT) prescribes that organisations manage their risk and return on a portfolio basis and makes it a critical theory for investment decisions. The underlying assumption of the theory is that investors are rational and the market is efficient and perfect (Markowitz, 1991). This theory explains how risk averse investors construct portfolios to minimise risk and maximise expected returns. Assuming that investors are homogeneous and risk averse, they need to receive a return on investment that will compensate them for the risk associated with their investment. The MPT highlights the importance of diversifying an investment portfolio to lower the risk without compromising on the expected return (Elton & Gruber, 1997). This theory is important for co-operatives in their investment decisions, as they are expected to invest the capital contributed by members into attractive investments in order to maximise their return (Kiaritha, 2015). It is essential for the management of the SACCOs to employ prudent financial management to ensure that their portfolio achieves a target equilibrium of risk and return, aligned to their members' risk appetite levels.

Marwa (2015) highlights an empirical debate regarding co-operatives and the MPT. A co-operative's objective, unlike the neoclassical firm, is not to solely maximise profits but to

also maximise the overall welfare of all its members (Fried et al., 1993). The quest for empirical modellers is to achieve an equilibrium between the interests of savers and borrowers and to incorporate the non-financial externalities resulting from investment decisions.

2.9.4 Life Cycle Theory

The Life Cycle Theory of Savings posits that people save when they are young and defer consumption for the later stages of life (Browning et al., 2017). The model predicts that individuals borrow prior to entering the labour market and that they subsequently accumulate wealth during their working years and spend during their retirement.

Fry and Mason (1982) posit that high rates of youth dependency have a bearing on the levels of savings in a community. A high birth rate increases the consumption requirements of young families who, ideally, should be saving for a later life stage. Kiaritha (2015), in his paper highlighting views from various subject matter experts, found that “national savings rates are higher when dependency rates are low and economic growth is rapid” (p. 16).

Robinson (as cited in Kiaritha, 2015) purports that savings are more important to microfinance members than credit. This theory supports the SACCO operating model which relies on voluntary savings mobilised from the public. Members of the co-operative save excess funds for the future, and the SACCO, in carrying out its financial intermediation role, converts these funds to credit for members. Supporters of this theory argue that SACCOs are a critical part of the solution to rural communities’ problems with dead capital and lack of collateral to access formal financial institutions (Kiaritha, 2015). SACCOs facilitate savings and provide loans to members at reasonable rates. They cater to individual’s needs throughout their savings life cycle.

SACCOs provide a service for low income earners to save with them, and they give members access to credit at reasonable interest rates. For access to membership benefits, individuals register and pay membership fees annually.

2.10 Empirical Studies

This section discusses the empirical studies on SACCOs across Africa. In their analysis of co-operatives and sustainability, focusing on North America and Europe, Dale et al. (2013) identify the co-operative model as integral to economies achieving sustainable development, and posit that “there is a clear and direct relationship between sustainability and how co-operatives describe themselves”(p.1). Their analysis notes that in the face of multiple crises and natural disasters, co-operatives managed to maintain high credit ratings, grow their assets and turnover and expand their membership base. They conclude that co-operatives present an opportunity for collaborative innovation and creativity as global attention shifts towards sustainable development solutions. Contrary to this, Havers (1996), questions the sustainability of SACCOs and highlights that although some savings and credit associations have been “successful”, they are heavily reliant on subsidies. The active management of loan repayment rates, cost of funds, administrative costs, interest and fee income are highlighted as critical contributors to financial sustainability.

BOTSWANA

Seleke and Lekorwe (2010) highlight the government of Botswana’s reliance on co-operative societies to spark a new commercial vibrancy that creates a platform for ordinary Batswana to participate in the economic and social development of the nation, with particular focus on economic diversification. Data collection for the study was conducted through interviewing 6 key stakeholders in Botswana’s co-operative landscape. The sample covered the regulator, co-operative college and representation of SACCOs in the financial, agricultural and mining industries. The study concludes that, in Botswana, “the movement has not been doing well and has not been able to build up a well patterned structure nor the capacity for self-management at the primary, secondary and apex levels” (p. 15). It further highlights that efforts by the government to revamp the “morbid” status of co-operatives have proved futile, as they remain dependent on government for technical, management and financial assistance. The study recommends that, for effective management and regulation, co-operatives should be overseen by a single regulator and the agricultural co-operatives should not be isolated under the Ministry of Agriculture. Further to this, strong corporate governance measures around compulsory annual audits should be emphasised to curb financial mismanagement by SACCOs. Sathyamoorthi et al. (2016) corroborate the study by identifying the co-operative movement as a critical component of the country’s socioeconomic development. Secondary

financial data was collected from 9 operating SACCOs with audited financial statements over the 5-year observation period. The data collected was analysed through the use of financial ratio analysis, correlation, common size, and regression analyses. The study reveals that in order for SACCOs to remain financially sustainable, management needs to ensure an optimal balance between interest paid on savings and interest charged on loans granted to members. It further recommends the investment of excess funds in diversified portfolios. This will reduce the SACCO's risk exposure and allow it to function efficiently, driving its profitability.

TANZANIA

Marwa (2015) discusses the global interest in microfinance as a tool for poverty reduction globally. He notes that despite the growing interest in microfinance as a solution to address the financing gap among the poor, the performance of microfinance institutions remains mixed. In particular, there is the question of whether these institutions are able to operate efficiently and sustainably in a competitive market given their exposure to a risky segment of the financial markets. Secondary financial data was extracted from the audited financial statements of 103 SACCOs from 4 regions in Tanzania. Data envelopment analysis was used to analyse the data. The study demonstrated that the major source of inefficiency among SACCOs in Tanzania was attributed to managerial incompetency and inefficiencies arising from scale/size. The unique recommendation by the study was to explore a public private partnership where “government can enter into an agreement with commercial banks and private financiers to provide wholesale financing products at an affordable interest rate” (p.121). Nyamsogoro (2010b) makes use of a survey research design involving the collection of longitudinal data for 4 years from 98 SACCOs. Ordinary Least Squares multiple regression analysis was used to determine the drivers of SACCOs financial sustainability in Tanzania. The study concludes that “microfinance capital structure, interest rates charged, differences in lending type, cost per borrower, product type, MFI size, number of borrowers, yield on gross loan portfolio, level of portfolio at risk, liquidity level, staff productivity and the operating efficiency affect the financial sustainability of rural microfinance institutions in Tanzania”(p.4). He recommends that SACCOs should assist in the operational set-up of the start-up/early stage ventures they finance, to ensure operational efficiency and reduce their credit risk exposure. In a similar manner, assessing the financial sustainability of Tanzanian savings and credit co-operatives, Marwa and Aziakpono (2015) provided a differentiation between financial and operational sustainability. Their study found that 61% of their sample was operationally sustainable and 51% was both operationally and financially sustainable.

Magali and Lang'at (2014) focus on the impacts of corporate governance on efficiency and sustainability of SACCOs. Descriptive and qualitative analysis was used to analyse data from 37 SACCOs from 3 regions in Tanzania. Their study concludes that SACCOs with superior performance had significant experience conducting SACCO business (years in operation), were committed to the effective screening of loans (efficient credit policy), and management practised good leadership and corporate governance principles. The study recommends that instead of relying on external funding for financial sustainability, underperforming SACCOs should employ best practice corporate governance principles to aid the sustainability of the co-operatives.

Chundu (2014) explored the determinants affecting the financial sustainability of SACCOs in Tanzania by the use of both a qualitative (interviewing management and staff) and quantitative (questionnaire that was statistically analysed) data analysis. His study contributed to literature in Tanzania by identifying borrower frequency as the major challenge to SACCOs' financial sustainability, saying that SACCOs primarily exist to provide loans and, in the absence of a high frequency of loan requests, revenue received through interest charges and transaction fees is compromised. The study further advised that SACCOs needed to consider a higher margin and minimise costs in providing services in order to operate profitably and sustainably. He recommended that loan tenors offered by SACCOs be increased as findings concluded that short loan tenors increased the event of credit default, which translated into the lack of sustainability for a number of SACCOs in the area.

MALAWI

Borda-Rodriguez and Vicari (2014) noted that, in Malawi, rural co-operatives were thriving despite the challenging economic environment and sluggish growth experienced by other financial service providers. A qualitative research approach was taken and a total of 42 engagements were facilitated to collect data, these included focus groups, individual and group interviews. The study established that, in Malawi, the key catalyst of SACCOs' resilience and financial sustainability is the involvement of employee unions in their operations. Unions provide a platform for the collaborative discussion of pertinent issues regarding the operational strategy, challenges and opportunities for the betterment of the SACCOs' operations. A recommendation is made for SACCOs management to facilitate a

platform where SACCOs across different African countries can share experiences and solutions that can improve their resilience as the challenges they face are not unique to Malawi.

RWANDA

Bosco and Faustin (2016) studied Umwalimu SACCO for a period of 5 years in order to establish the impact of loan portfolio management on its profitability and sustainability. Primary data was collected by means of a survey distributed to 89 staff members which was then analysed using a multiple linear regression model. The study found that, in Rwanda, robust credit policies were the primary determinant of SACCOs' sustainability. An example is given that "if a credit policy is too risk averse it will hamper credit provision to marginal but potential creditworthy borrowers resulting in or contributing to the institution failing to achieve its revenue goals" (p.2). The reverse can be assumed for a credit policy that is a poor predictor of risk and ability to service loans. A recommendation is made to discourage consumer loans as they attract the highest level of non-performing loans which impacts sustainability negatively. Further to this it is imperative that SACCOs review their credit offering regularly to ensure they are still well suited for their clientele considering affordability and needs.

KENYA

Wanjiru and Willy (2016) investigated the factors affecting credit co-operatives performance by sampling 12 licensed SACCOs in Kiambu county. Quantitative data was collected from the co-operative's annual financial statements and was analysed by use of descriptive statistics and inferential statistics. A linear regression model was used to determine the key influencers of financial performance. The research found that, in Kenya, the primary drivers of co-operative profitability and sustainability are the rate of default on loans offered, the dividend policy and the number of members. The size and growth of the co-operative's membership has a direct implication on deposits available for borrowing and capital in the organisation. The researchers made recommendations that SACCOs should get their credit book insured as a way of mitigating credit risk, introducing a collateral requirement for loans greater than the members' salary as well as subscribing to a credit bureau to enhance their screening process. Nkuru (2015) used a descriptive survey among 210 farmers to establish the factors affecting the growth of agricultural co-operatives in Kenya. Descriptive statistics used included frequencies, measures of central tendencies and dispersion and also inferential

statistics that include regression and analysis of variances. The study brought to light that membership on its own does not qualify its importance to profitability and sustainability but most important is the calibre of that membership base. Co-operatives with low amounts of money to re-invest were often made up of low income members which stifled their growth and sustainability. As co-operatives are experiencing increased competition when it comes to savings mobilisation from commercial banks, they cannot be sustainable with a weak capital base. Co-operatives that are unable to raise funds internally resort to borrowing loan funds from commercial banks at high interest rates to facilitate lending to their members at low rates, which turns them into loss-making entities in the long run. One of the recommendations coming from the study was that geographic restrictions limit the ability of co-operatives to improve their financial base, to improve sustainability and profitability SACCOs need to explore ways of accessing members outside their immediate geographical location.

Wanjiru and Willy (2016) further highlight that members join co-operatives for the benefit of receiving favourable savings interest and loan services, with the expectation of earning a return on their investment in the form of a dividend. The study notes that a regular dividend policy was only suitable for well-established co-operatives with stable earnings and that newly established co-operatives needed to adopt a residual dividend policy to maintain financial sustainability. Lastly, it discusses credit risk as a critical component of financial sustainability. The study agrees with Bosco and Faustin (2016) in concluding that co-operatives need to have strong credit policies and procedures to manage credit risk and prevent the organisation from making losses on loans disbursed. Kimando, Kihoro and Njogu (2012) used a descriptive survey with a sample of 45 respondents to find out the factors influencing the sustainability of Micro-Finance Institutions in Murang'a Municipality. The findings of the study reiterate the contribution of credit risk and poorly skilled management as a threat to co-operative sustainability in Kenya. The study goes on to highlight interest rate risk and the influence of government policies on SACCOs' financial performance. It qualifies this by noting that various government institutions and policies supervise and regulate the operations and scope for which co-operatives can do business. The researchers recommend that "microfinance institutions should open many branches so that they can be able to reach as many as possible which will enhance their sustainability" (p.40).

Miriti (2014) interviewed 298 respondents, a mix of SACCO members and staff to find out the factors influencing financial performance of SACCOs in Meru county. Data analysis was done through descriptive statistics such as percentages, averages and inferential statistics. The findings reiterate the effect of default rates on SACCOs' financial performance and sustainability. His study highlights that although the rates of default would not affect the growth of the SACCO (as they happen at an individual level), they would affect its overall profitability. The study fails to indicate the cause of defaults, but alludes to the affordability of loans being a significant contributor to the levels of default. A recommendation is made for SACCOs to review interest rates frequently and to align rates comparative to other financial institutions.

Mwanja et al. (2014) and Magali and Lang'at (2014) in Tanzania found sound corporate governance to be a driver of financial sustainability in Kenya. 33 co-operatives were used in a study to investigate the effect of corporate governance on performance SACCOs in Kakamega county. The analysis of data was done through descriptive statistics such as percentages, averages and inferential statistics. The study dissected the overarching indicator of governance to conclude that accountability and transparency were the elements of governance that should be emphasised. He concludes that when ordinary members are involved in decision-making and there is a culture of regular reporting and discussion of the co-operative's performance, the SACCO achieves better financial performance and longevity. She further recommends that policies and guidelines will play a pivotal role in facilitating the sustainability of SACCOs, this is to be coupled with a well motivated workforce incentivised by bonuses and promotions.

NAMIBIA

Adongo and Stork (2007) and Mwanja et al. (2014) acknowledged the influence of regulation by evidencing the Usury Act of 1968 as the major impediment to financial sustainability of co-operatives in Namibia. A sample of 143 institutions covering SACCOs, MPCMs, SCAs, micro-lenders and commercial bank branches involved in microfinance provision, and some NGOs was used to identify the factors affecting the financial sustainability of micro finance institutions in Namibia. The ANCOVA model was used to analyse the data. The study posits that the unsustainability of microfinance institutions is attributed to the fact that the hurdle interest rate required by the institutions to break even exceeds the interest rate ceiling imposed by this Act. This therefore presents a conflict in the regulator trying to protect the

borrowers from exorbitant interest rates and the adverse social impact resulting from that, with efforts to keep these institutions financially viable. Based on the formula used to determine financial sustainability in the study, it is recommended that innovation around cost saving, reducing default rates and increasing financial inclusion will improve sustainability.

ETHIOPIA

Sebhatu (2011) looked into the management of SACCOs from the perspective of outreach and sustainability with evidence from Southern Tigray of Ethiopia. The study employed both quantitative and qualitative data collected through primary and secondary sources. These included literature review on SACCOs, review of financial reports of the SACCOs, and discussions with key stakeholders. A correlation analysis was done to establish the main contributors. The findings addressed a gap in literature by identifying lack of financial literacy as an impediment to SACCOs' profitability. The study concluded that the major hindrance to profitability and sustainability was that Ethiopians lack financial awareness and have a poor savings culture. Lack of diversity of product offerings and inappropriate loan security requirements were also found to be challenges.

Thapa (2002) looked at sustainability and governance of microfinance institutions, with lessons from Southeast Asia. A sample of 101 Asian MFIs (from five countries, namely, Bangladesh, Cambodia, India, Philippines, and Pakistan) was studied to assess performance and to identify challenges and opportunities facing Asian microfinance. The study highlights the conflict faced by microfinance institutions between financial sustainability and financial inclusion, particularly of the very poor. He justifies the relevance of subsidies, saying that in instances where an MFI cannot serve a rural economy and be financially self-sufficient, subsidies are required. Thapa recommends that MFIs should work on efficiencies targeted at reducing operational costs, and consider the revision of interest rates to align them to market rates in order to enhance their financial sustainability.

KNOWLEDGE GAP

A plethora of literature exists on the financial sustainability of SACCOs across the African continent. However, there is very little literature on SACCOs in Botswana. In various metrics such as GDP per capita, GDP growth rates, banked population and population makeup, Botswana differs from the countries covered in the literature, and thus it cannot be assumed that findings from these countries would apply to Botswana.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter outlines the methodology employed in this study. The research approach and strategy are introduced, followed by a description of the data used, the sampling methodology and the data analysis technique used. The empirical model is then presented with a thorough description of variables selected for the model, accompanied by evidence from empirical literature supporting the expectations for the model output. In conclusion, a few limitations are highlighted and the estimation of regression is given.

3.2 Research Approach and Strategy

According to Gujarati (2004), the research design is the conceptual structure within which the research is conducted. This study uses quantitative data analysis, obtained from secondary data, to analyse the profitability and sustainability of SACCOs in Botswana. The quantitative research approach is suitable where quantitative data are generated from large samples to test applicability of the existing theory using statistical analysis (Collis & Hussey, 2009).

This study adopts an explanatory research strategy on the premise that a SACCOs' profitability cannot be divorced from its operational sustainability. Operational self-sufficiency can be synonymously identified with profitability and sustainability (Bogan, 2012).

3.3 Data Collection, Frequency and Choice of Data

As in Kimando, Kihoro and Njogu (Kimando et al., 2012), the entire population of SACCOs that had audited financial statements for the period 2005-2015 was used for the study. A larger sample than that of previous studies done in Botswana was used in an effort to enhance the explanatory power of the purported relationships in the equation.

The 10-year period was chosen to allow for findings that are not concentrated in a particular season of the year or restricted to a particular economic cycle period. It allowed for

sustainability to be assessed before, during and after the global financial meltdown which threatened the sustainability of institutions across the globe. The studied population consisted of SACCOs from nine region, Molepolole region, Kanye region, Mochudi district, Selebi-Phikwe region, regions: Gaborone Mahalapye district, Francistown region, Letlhakane district and Tsabong region. This choice of regions prevents any locational bias that may occur and ensures adequate representation of SACCOs in the urban areas and villages. Information from 40 SACCOs was collected; however, only 39 were used for the study as one had incomplete information.

The key variables extracted from the financial statements were total revenue, total expenses, members' deposits, total assets, total liabilities, investment income, current ratio, and capital employed. Key variables such as level of member education and financial literacy, corporate governance, use of technology, interest rate charges and others could have a significant contribution to SACCOs' sustainability; however, they have been excluded from the study due to data limitations.

3.4 Data Analysis Methods

The study makes use of panel data models to determine the relationship between independent (explanatory) variables and the dependent variable. Panel data or longitudinal data are data sets containing repeated observations of the same individuals (SACCOs) recorded over various periods. Panel data can further be explained as cross-sectional data recorded for the same subject over time, a combination of time series and cross-section data (Gujarati, 2003).

The hybrid between the two models is suitable, as it is able to efficiently detect and measure effects that would not otherwise be identified in pure time series or cross-section data analysis (Gujarati, 2004; Wooldridge, 2002). Moreover, panel data allow one to control variables that cannot be observed, such as difference in business practices or culturally unique attributes that may change over time but not across entities (Torres-Reyna, 2007).

3.4.1 Empirical Model

As in Marwa (N. W. Marwa, 2015), a multiple linear regression model is used to establish the variables that drive a SACCO's financial sustainability. Financial sustainability is measured

according to UNCDF (2002), where institutional sustainability is determined by financial self-sufficiency (FSS) and operational self-sufficiency (OSS). OSS is determined by the ability of the institution's operating income to cover its operating expenses, and FSS measures the extent to which the institution's costs are covered by its operating profits.

$$oss_{i,t} = \alpha + \beta_1 roa_{i,t} + \beta_2 dep_{i,t} + \beta_3 size_{i,t} + \beta_4 cr + \beta_5 caps + \varepsilon_{i,t}$$

where i and t denote firms (SACCO) and year respectively; oss represents financial operational sustainability and is regressed against return on assets, deposit mobilisation, size, liquidity ratio and capital ratio as independent variables.

Prior to running the regression, the data collected are plotted on a graph to identify any outliers. In the event that outliers are found, a smoothing technique is employed to smooth out the data. A test for multicollinearity is conducted using a correlation matrix to ensure the independent variables used do not have strong correlations among themselves, which would lead to us excluding certain variables to improve the model fit. Perfect collinearity violates the Markov assumption of no perfect collinearity (Wooldridge, 2002).

3.5 Description of Variables

3.5.1 Dependent Variables

- **Operational self-sufficiency (OSS):** This variable is measured as the ratio of total revenues to total expenses.

3.5.2 Independent Variables

- **Return on assets (ROA):** This ratio measures profitability as the ratio of net income to total assets. The use of ROA follows the work of Marwa and Aziakpono (2015) as a measure of overall profitability and reflects both the profit margin and how effectively the institution is using the total assets to generate revenue.

Shareholder value can be derived by determining return on equity (ROE). ROE is, however, not suitable for comparing the performance of SACCOs, due to their widely divergent liability and equity structures (Sebhatu, 2011). At one end of the spectrum, SACCOs have a large equity base through donor funds, and, at the other, some are found with low levels of equity, predominantly funded through soft loans. This divergence makes ROA the appropriate measure for comparing SACCOs' performance. ROA measures the overall profitability and efficiency of an institution, giving an indication of how efficiently assets are being utilised.

Marwa and Aziakpono (2015) evidence that SACCOs with negative ROAs had very low financial sustainability scores. SACCOs that were unable to produce enough revenue to cover their costs were unprofitable and generally performed poorly, which exposed their inability to efficiently transform the inputs at their disposal (member deposits) to outputs (profitability).

Nyamsogoro (2010b), however, noted that ROA may also be affected by the life cycle stage of the SACCO. ROA is expected to be low when SACCOs are starting up and trying to find their way. During this phase, they might have invested excessively in long-term investments that may take longer to realise returns. It is to be noted that as soon as ROA turns positive, the corresponding values of financial sustainability increase sharply (Marwa, 2015).

The primary limitation of using ROA as the only measure of profitability is that SACCOs have a dual objective of financial viability and socioeconomic development.

- **Deposit Mobilisation (DEP):** Distler and Schmidt (2011), in their study of the sustainability of SACCOs in Uganda, find that member deposits are a significant contributor to the sustainability of SACCOs. Access to affordable and reliable funding through member savings, particularly long-term deposits, is a significant contributor to a SACCO's ability to remain financially sustainable. The study reiterates the importance of DEP by highlighting that SACCOs have limited sources of funding. They are practically excluded from capital markets, and interest rates on loans offered by commercial financial institutions are largely prohibitive.

DEP is measured as the ratio of total deposits to the total loan portfolio. The liquidity transformation role played by SACCOs suggests that high DEP would lead to lower costs of

capital and translate to a higher level of financial sustainability. Marwa (2015) found a negative relationship between DEP and financial sustainability.

Marwa (2015) suggests that the observed relationship may be attributable to the fact that, in rural areas, there are limited investment options, poor linkages with commercial financial institutions and a generally adverse operating environment. These characteristics may lead to ease in DEP for SACCOs, but similarly translate to high transaction costs which would impact their financial sustainability negatively.

- **Firm size (Size):** This is measured by the membership. According to economic theory, large firms are supposed to outperform smaller firms due to benefits accruing from economies of scale and scope. In addition to the economic theory, large credit unions have been documented as having a higher ability to attract a diverse pool of skilled members. This diversity then translates to a skilled governance team overseeing the organisation, evidencing a positive relationship between size and financial sustainability (Goddard, McKillop & Wilson, 2008).

LOGOTRI (2006) supports this literature by concluding that a large membership base is the most significant contributor to SACCOs' sustainability. Bogan et al. (2007) (as cited in Rahman & Mazlan, 2013) also find that size is positively and significantly related to financial performance, owing to economies of scale.

On the contrary, Nyamsogoro (2010) finds a negative and significant relationship to size and financial sustainability. The study highlights that large numbers alone do not qualify financial sustainability, as they may result in increased inefficiency and mismanagement as a consequence of an exponentially growing lending base.

Meyer (2002) purports that financial sustainability and size are complementary. This conclusion is derived from the reasoning that as the SACCO grows in size, it begins to enjoy economies of scale which translate to a reduction in costs and contributes to financial sustainability. Hulme and Mosely (as cited in Sebhatu, 2011) argue that size and financial sustainability are inversely related. This argument was informed by the higher transaction costs associated with a large number of borrowers.

However, Hartarska (as cited in Rahman & Mazlan, 2013) finds no significant relationship between membership numbers and financial sustainability.

- **Liquidity Ratio:** The current ratio demonstrates an institution’s ability to meet its current liabilities given its level of current assets. Furthermore, the term ‘liquidity’ communicates the ease and speed with which an enterprise can convert its assets into cash to pay off its current liabilities and obligations. Generally, the higher the liquidity ratio, the more financially sustainable an enterprise is expected to be. This is because a sufficiently liquid position implies a larger margin of safety in terms of the entity’s ability to meet its current liabilities comfortably (Nyamsogoro, 2010). However, excess liquidity is an indication of poor asset management. The study uses the current ratio to measure the selected societies’ levels of liquidity.

- **Capital Structure:** A plethora of microfinance studies evidence a relationship between capital structure and financial sustainability. Robinson (2001) posits that there is a strong correlation between the number of customers a microfinance institution has and their amount of capital. He further highlights that the various components making up a firm’s capital structure could affect its level of profitability and therefore, in turn, its sustainability. SACCOs have various sources of capital, including loans, shares, deposits and savings. Schreiner et al. (1999) perceive savings as the most stable source of capital in the long term and conclude that in the case of microfinance, the propensity to save exceeds that of the demand for loans. Kyereboah-Coleman (2007) finds that microfinance institutions that are highly leveraged are better equipped to deal with the challenge of adverse selection and moral hazard, compared with their counterparts with lower leverage ratios. This translates to greater financial resilience.

Table 3: Expected outcomes of the independent variables

Variables	Measurement	Symbol	Expectations
Return on assets	$\frac{\text{Net Profit}}{\text{Total Assets}}$	ROA	+
Deposit mobilisation	$\frac{\text{Total deposits}}{\text{Total loan portfolio}}$	DEP	+/-
Firm size	Total members	Membership	+
Current ratio	$\frac{\text{Current Assets}}{\text{Current Liabilities}}$	CR	+

Capital ratio	$\frac{\text{Members Capital}}{\text{Total Assets}}$	CAPS	+
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3.6 Research Reliability and Validity

Construct validity is considered for the overall intention of the study. This is, however, logical consideration and not empirical. The R-squared statistic is used to test the validity of the regression model. The use of audited financial statements further enhances the reliability and validity of financial information obtained, and in turn the generalisations made from the study.

3.7 Limitations

The study will only encompass SACCOs in Botswana that have audited financial statements from the period of study between 2005 and 2015. Although this could potentially lead to a self-selecting bias due to the exclusion of SACCOs that do not keep audited financial statements, these are the ones not likely to be profitable and sustainable because of poor management, and thus we need to learn from them. Future studies could utilise SACCOs with unaudited financial statements and find ways of validating the financials provided.

3.8 Estimation of Regression

This study uses panel data models, fixed effect and random effect estimations. These models are designed to eliminate the omitted variable bias by measuring change within a group (Torres-Reyna, 2007). By considering the various changes within the group across time, the study controls for variables unique to the group that could potentially be omitted. The key differentiation between the random and fixed effects is not whether the effects are stochastic or not, but whether the unobserved individual effect embodies elements that are correlated with the regressors in the model. The conclusion of whether the individual effect is random or fixed is what determines the appropriateness of either a random effect (RE) model or a fixed effect model (FE). According to Cameron and Trivedi (2005) (as cited in Nyamsgoro, 2010b), if the effects are fixed, the random effect model estimators are inconsistent and the fixed effect model should be used, and vice versa. The Hausman test for endogeneity was

used as suggested in econometric literature (Greene, 2003; Gujarati, 2003), to decide on the appropriate model between random effects and fixed effect models.

The test assumes the null hypothesis, which suggests that the differences in the coefficients obtained from the random effects and the fixed effects are not systematic. The hypothesis communicates that there is no correlation between the explanatory variables and the unobserved factors. The alternative is that there are fixed effects, implying correlation between the error term and the explanatory variables (and as such the systematic differences between fixed and random effects estimations are significant). If the alternative is true, it means that failure to use fixed effects estimations will result in omitted variable bias and it is thus an unreliable model.

In the event that the null hypothesis is rejected, the fixed effects model is most suitable for analysing the causal relationship between the dependent and independent variables.

CHAPTER 4

DISCUSSION OF FINDINGS

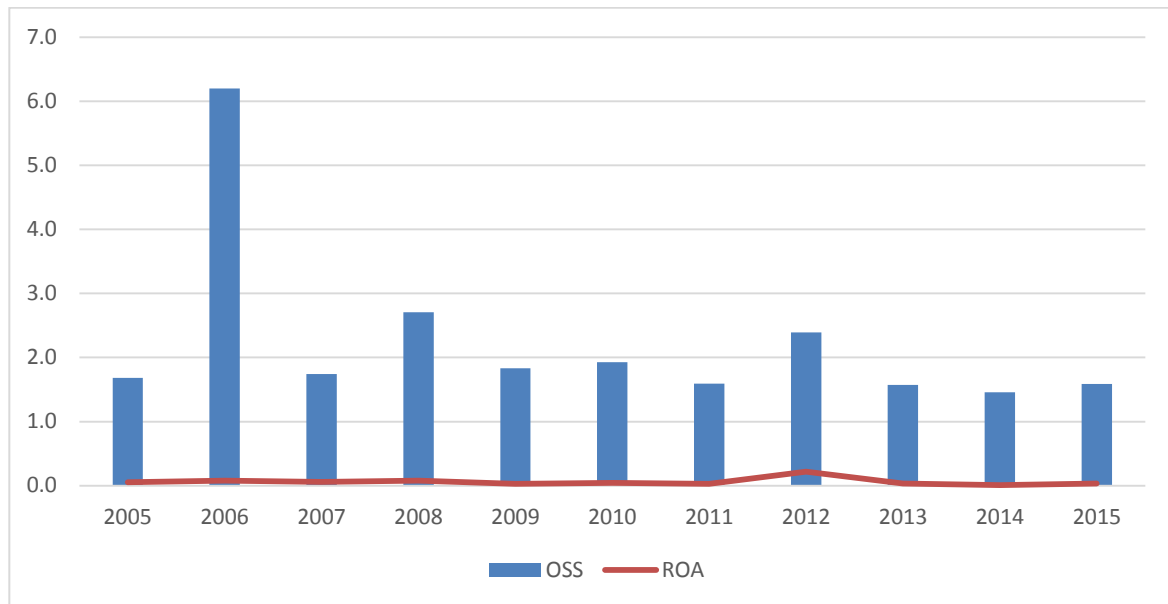
4.1 Introduction

This chapter presents a discussion of the data analysis described in Chapter 3. It consists of a discussion of data properties, diagnostics tests and the regression results, and informs the basis on which the conclusion and recommendations are made.

4.2 Sustainability and Profitability of SACCOs

Over the study period, the operational sustainability of the SACCOs has been largely stagnant, without displaying a growth trend, notwithstanding the great focus and resources that have been channelled into improving the efficiency of these organisations. The trend, however, highlights the resilience noted in literature during the financial crisis, as operational sustainability was not severely affected, compared with the widespread operational collapses and strain seen in the commercial financial service sector globally. Similarly, the SACCOs' profitability has not improved over the years. This can be largely attributed to SACCOs relying solely on one stream of income in interest from loans and not diversifying their income-generating investments to grow shareholder value. These trends validate the need to resuscitate and revamp the way in which SACCOs operate to position them as significant contributors to economic activity, and unlock the potential inherent in their operating model and current performance.

Figure 4.2.1: Evolution of sustainability and profitability



Note: OSS=Operating sustainability; ROA=Return on assets

4.3 Descriptive Statistics

Table 4.3.1 illustrates the descriptive statistics for operational sustainability, return on assets, deposit mobilisation, size, membership, current ratio and capital ratio. The average operating sustainability is 230%, compared with the recommended minimum threshold of 100%, and shows that the average number of SACCOs included in the study are very sustainable. The ROA ranges between -0.589 and 2.588; and the average ROA is 6.2%. Overall, the returns generated on assets for the sample are approximately twice the figures reported by Nyamsogoro (2010b) for rural-based microfinance in Tanzania. With over 55% of the SACCOs in Botswana based in urban areas, most rural institutions are characterised by higher transaction costs and lower economic capacity of members, whilst those in urban areas have access to stronger support systems, lower transaction costs and access to other investment avenues. These results are, however, aligned to Marwa and Aziakpono (2015), who similarly looked at a sample of SACCOs with the majority based in urban areas. These also showed an average 6% ROA. ACCION (2004) (as cited in Marwa, 2015) posits that for microfinance institutions the optimal ROA is 3% and above.

Based on this threshold, we can conclude that the SACCOs used for the study fare very well in terms of profitability.

Table 4.3.1: Descriptive statistics

stats	Mean	Median	Std. dev	Min	Max	N
OSS	2.338	1.616	6.467	0.147	100.000	248
ROA	0.062	0.046	0.197	-0.589	2.588	250
DEP	13.747	13.677	2.474	4.060	18.209	249
SIZE	5.426	5.384	1.309	2.079	7.994	250
MEMBERSHIP	490.136	218.000	614.713	8.000	2962.000	250
CR	1.080	0.960	0.954	0.000	8.470	246
CAPS	0.276	0.249	0.205	-0.273	1.493	250

Note: OSS=Operating self-sufficiency; ROA=Return on assets; DEP=Deposit Mobilisation; ROCE=Return on capital employed; SIZE=Natural logarithm of number of members; Membership=Number of members; CR=Current ratio; CAPS=Capital ratio

The ability to mobilise deposits ranges from four to 18 times. The average SACCO has 13 times more deposits than loans, which is significantly higher than the average of 1.23 times found by Marwa and Aziakpono (2015). This implies that the SACCOs do not optimally invest their deposits to make returns for shareholders, as a majority have excess liquidity.

Membership of the SACCOs varies greatly, ranging from eight to 2962 members. Average membership size is 490 members. This highlights that most SACCOs have a challenge in attracting and retaining membership.

The average liquidity as defined by the current ratio is a healthy 1.1 times. This is similar to 1.3 times found by Sathyamoorthi et al. (2016) for SACCOs in Botswana. The absence of inventory for SACCOs makes a current ratio above 1 good, indicating the SACCOs' ability to meet their short-term obligations. The maximum value of eight times, however, shows that certain SACCOs have lent beyond their capacity. The likelihood of an inability to meet their liabilities when they fall due can further be impacted by credit risk. In the case of high current ratios, SACCOs ought to adhere to a stringent lending policy.

The capital ratio ranges from -27% to 149%. The findings highlight that some SACCOs have eroded their capital and have a negative capital ratio, which shows that they are not financially sustainable. The negative shareholder equity is largely attributed to instances where a SACCO has accumulated losses from previous years, resulting mainly from bad debts. These losses are recorded as liabilities until they are written off. There are instances where SACCOs are able to maintain operations, whilst on paper their financial reports reflect them as loss-making and it appears as though losses only exist on paper. The mean capital ratio is 28% equity which is similar to that of Nyamsogoro (2010b), verifying that the capital structure of SACCOs across the continent remains similar. The financial leverage of selected SACCOs was healthy as a result of their capital structure predominantly consisting of internally generated funds rather than external funds. This attribute is unique to SACCOs in the developing countries, as those in developed countries, as seen in the literature, are heavily funded by loans from commercial banks.

4.4 Correlation Analysis

Multicollinearity

The correlation matrix was used to test for multicollinearity. Assumption 10 of the classical linear regression model (CLRM) is that there is no multicollinearity among the regressors included in the regression model (Gujarati, 2004). The term ‘multicollinearity’ refers to the existence of a “perfect” or exact linear relationship among some or all explanatory variables of a regression model. It has no theoretical consequence; however, its presence may lead to difficulty in precise estimation of the coefficients. In the presence of multicollinearity, the OLS estimators have high variances and co-variances, which lead to wider confidence intervals and failure to reject the null hypothesis.

Table 4.4.1: Correlation Matrix

	1	2	3	4	5	6	7
1.OSS	1						
2.ROA	0.2847*** (0.000)	1					
3.DEP	-0.2806*** (0.000)	0.0781 (0.2196)	1				
4.ROCE	0.0621 (0.3300)	0.1835*** (0.0036)	0.1087* (0.087)	1			
5.SIZE	-0.1923*** (0.0023)	0.0657 (0.3009)	0.8991*** (0.0000)	0.0911 (0.1509)	1		
6.CR	-0.021 (0.7441)	0.1245* (0.0511)	0.0065 (0.9197)	0.0195 (0.7612)	0.0603 (0.3461)	1	
7.CAPS	0.2651*** (0.0000)	0.0622 (0.3270)	-0.1794*** (0.0045)	0.0109 (0.8638)	-0.1166* (0.0656)	0.4339*** (0.0000)	1

*Note: OSS=Operating self-sufficiency; ROA=Return on assets; DEP=Deposit mobilisation; ROCE=Return on capital employed; SIZE=Natural logarithm of number of members; CR=Current ratio; CAPS=Capital ratio; ***, ** and * denote significance at 1%, 5% and 10%*

The results show that for each of the variables, the relationship between a variable and its self is exact, indicated by 1s across the auxiliary diagonal. Further analysis shows that perfect multicollinearity does not exist, that is, there are no perfect linear relationships among the explanatory variables.

The relationships of the independent variables and the dependent variable operational self-sufficiency (OSS) vary. The significant independent variables are return on assets (ROA), deposit mobilisation (DEP), size and capital ratio (CAPS). The independent variables - size, DEP and CR - show a negative relationship with OSS, which is only partially aligned to expectations from the literature. The negative relationship between SACCO size and OSS is aligned to the findings of Nyamsogoro (2010a), who suggests that large numbers do not necessarily qualify sustainability, as they may lead to various diseconomies of scale. The negative relationship between DEP and OSS is as discovered by Marwa (2015), who

attributes this relationship to lack of institutional thickness and high transaction costs. These market characteristics impede the asset transformation ability of the SACCOs. The negative relationship between liquidity and OSS contradicts findings by Nyamsogoro (2010). This could be attributed to the fact that excess liquidity may result in a high rate of capital flight if deposits lie idle and are not efficiently invested to earn attractive levels of return.

Positive relationships exist between OSS and ROA, and capital ratio and ROCE, although ROCE is insignificant. The OSS relationship with ROA is in line with the findings of Sebhatu (2012), Marwa and Aziakpono (2015) and Nyamsogoro (2010b) among various literature, which corroborate that profitability as indicated by high levels of ROA qualifies OSS. The positive relationship with capital ratio is supported by Kyereboah-Coleman (2007), who highlights the merits of highly leveraged firms.

4.5 Regression Results

Due to the high collinearity (0.8991) between SIZE and DEP, a stepwise estimation of the regression equation was undertaken. The first output in Table 4.3.1 controls for DEP, and the second in Table 4.4.1 controls for SIZE. In the instance of multicollinearity, best practice prescribes that one of the variables be dropped from the model; however, in this case we do not consider the two variables to be substitutes. The high correlation is as a result of one variable being a product of the other. Logically, a large membership base (SIZE) will translate to increased deposits and loans granted to members and lead to a high DEP. Notwithstanding this logic, a high DEP does not necessarily imply a large membership base, as this could be determined by varying income demographics and loan offerings to SACCO members.

Table 4.5.1: Regression results with deposit mobilisation

Dependent Variable: Operational Self-Sustainability						
Model 1	POLS		Fixed Effects		Random Effects	
	<i>Coef.</i>	<i>z</i>	<i>Coef.</i>	<i>t</i>	<i>Coef.</i>	<i>z</i>
Constant	9.700** (4.419)	2.2	26.857*** (7.603)	3.53	9.700*** (2.303)	4.21
ROA	9.536*** (3.327)	2.87	9.063*** (2.052)	4.42	9.536*** (1.938)	4.92
DEP	-0.660** (0.327)	-2.02	-1.809*** (0.505)	-3.58	-0.660*** (0.156)	-4.23
ROCE	0.110 (0.095)	1.16	0.134 (0.196)	0.68	0.110 (0.184)	0.6
CR	-1.080 (0.698)	-1.55	-1.045* (0.599)	-1.74	-1.080** (0.448)	-2.41
CAPS	8.192** (4.008)	2.04	3.499 (3.452)	1.01	8.192*** (2.066)	3.96
R-squared	0.2103		0.1868		0.2103	
Wald χ^2 (5)	12.94		9.14		63.1	
Prob > χ^2	0.024		0.000		0.000	
Hausman	8.27					
Prob > χ^2	0.1419					
BPLM $\hat{\chi}$	0.000					
Prob > $\hat{\chi}$	1.000					
Number of SACCOs	39		39		39	
Observations	243		243		243	

*Note: ROA=Return on assets; DEP=Deposit mobilisation; ROCE=Return on capital employed; SIZE=Natural logarithm of number of members; CR=Current ratio; CAPS=Capital ratio; Heteroskedastic and autocorrelated standard errors in parenthesis; ***, ** and * denote significance at 1%, 5% and 10%*

Hausman Test

The Hausman test rejects the null hypothesis and thus communicates the evidence of fixed effects. The fixed effects model accounts for unobserved heterogeneity when heterogeneity is constant over time and correlated with independent variables. Taking into account that the regression analysis is limited to a particular set of SACCOs, with time-varying variables, this estimation technique is suitable for the study. The fixed effects estimation allows the unobserved SACCOs' specifics to be arbitrarily correlated with the determinants of operational self-sufficiency (the time that invariant reasons why one SACCO is more operationally sustainable than the other is controlled for, Wooldridge, 2002). Under the assumption of strict exogeneity, it also takes into account the SACCOs' specific differences. Lastly, the method addresses the omitted-variables bias problem by controlling for institution-specific effects.

Goodness of Fit Measured by R-squared

Once the least squared regression line is determined, it is important to assess its "fit". The goodness of fit is determined by how well a model fits a given set of data, or how well it will predict a future set of observations. The R-squared shows the percentage of the total variation of the dependent variable that can be explained by the independent variables. Table 4.3.1 and Table 4.4.1 show differing results for R-squared. Casually interpreting this variation, one can assume that controlling for SIZE in the model strengthens the power of the explanatory variables in explaining variations in the dependent variable from 21% to 30%.

Table 4.5.2: Regression results with firm size

Dependent Variable: Operational Self-Sustainability						
Model 2	POLS		Fixed Effects		Random Effects	
	<i>Coef.</i>	<i>z</i>	<i>Coef.</i>	<i>t</i>	<i>Coef.</i>	<i>z</i>
Constant	12.993 (8.060)	1.61	8.067 (7.235)	1.11	4.810*** (1.811)	2.66
ROA	9.417*** (3.057)	3.08	8.648*** (2.105)	4.11	9.191*** (1.973)	4.66
SIZE	-2.317 (1.411)	-1.64	-1.443 (1.254)	-1.15	-0.805*** (0.304)	-2.65
ROCE	0.111 (0.100)	1.11	0.115 (0.201)	0.57	0.076 (0.187)	0.41
CR	-1.458* (0.876)	-1.66	-0.888 (0.608)	-1.46	-1.102** (0.459)	-2.4
CAPS	11.742** (5.126)	2.29	9.102*** (3.128)	2.91	9.022*** (2.106)	4.28
R-squared	0.3035		0.14		0.1753	
Wald χ^2 (5)	13		6.51		50.49	
Prob > χ^2	0.0234		0.000		0.000	
Hausman χ^2	2.55					
Prob > χ^2	0.7692					
BPLM $\hat{\chi}$	0.0300					
Prob > $\hat{\chi}$	0.4296					
Number of SACCOs	39		39		39	
Observations	244		244		244	

*Note: ROA=Return on assets; DEP=Deposit mobilisation; ROCE=Return on capital employed; SIZE=Natural logarithm of number of members; CR=Current ratio; CAPS=Capital ratio; Heteroskedastic and autocorrelated standard errors in parenthesis; ***, ** and * denote significance at 1%, 5% and 10%*

For both models, the coefficients under random effects are larger for ROA and DEP, which implies that the exclusion of fixed effects would lead to overstating the explanatory power of the two variables. In the case of the CR, the absolute value of the coefficient is smaller under the random effects model, implying that the exclusion of fixed effects would lead to understating the explanatory power of the liquidity ratio. When controlling for SIZE, the capital ratio coefficient is smaller under random effects; however, when controlling for DEP, the coefficient is smaller under fixed effects. The same considerations are to be made regarding overstating or understating the power of the explanatory variable as done for the other independent variables. Using the 1.96 t-stat critical value under fixed effects, which is an equivalence of 5% significance level, the following relationships were established.

Relationship between Operational Self-Sufficiency and Financial Ratios

The variable ROA (return on assets), which is a measure of how efficiently management employs a firm's assets to generate profit, is found to have a positive relationship and be a significant determinant of operational self-sufficiency. This indicates that the more efficiently a firm is able to utilise its assets to generate profit, the more likely it is to generate enough operating income to cover its operating expenses, and is hence operationally self-sufficient. The primary assets owned by SACCOs are loans to their members. Management therefore needs to charge a profitable rate of interest on loans and ensure credit risk is kept at a minimum in order to maximise profits and minimise risk. This can be achieved by adhering to a well-defined credit policy and a robust collections process. Conversely, if the SACCOs have a high loan impairment rate and fail to diversify their asset base, their profitability will be eroded and result in them not generating enough income to maintain operations. This is in line with the findings of Marwa and Aziakpono (2015), who posit that SACCOs with low ROA are generally unsustainable. The significant coefficient of ROA conveys that it is a significant determinant of a SACCO's operational self-sufficiency. Nyamsogoro (2010a), however, posits that ROA is not a significant determinant of operational self-sufficiency at the start-up stage of a SACCO. At this stage, long-term investments are made, which are anticipated to boost profitability in the long run, resulting in a negative ROA in the short term.

The liquidity ratio (CR) measures the SACCO's ability to meet its short-term and long-term obligations, which directly translates to its ability to remain operationally sustainable. The results show a significant negative relationship between the current ratio and operational sustainability in Table 4.3.1, but are insignificant in Table 4.4.1 under the FEM estimates. This indicates that increases in the liquidity position of SACCOs reduce operational sustainability. In order to

maintain adequate levels of liquidity, it is ideal for a firm's current assets to cover its current liabilities at least once, to avoid challenges in meeting its short-term obligations. The findings of the study contradict Nyamsogoro (2010a) regarding the significance and relationship of CR. The negative relationship may result from the fact that when assessing the efficiency of a company's operating cycle, a 2:1 liquidity position is considered a lenient liquidity position (Singh, Kanhaiya; Dutta, 2013), while a 1:1.33 ratio is deemed to be the ideal level of liquidity (Singh, Kanhaiya; Dutta, 2013). The liquidity position of 1:1.080 observed for SACCOs in Botswana, which is closer to a 1:1 ratio, is considered too tight and leaves no precautionary buffer for unforeseen financial obligations. In the case of a SACCO, the asset base may be eroded by write-offs made on non-performing loans or the inability of outstanding loans to be paid on demand. Similarly, a sudden increase in deposits could easily cause the SACCO to have a current ratio less than 1, signifying an unhealthy financial position where its financial obligations could not be met on demand. The inability to comfortably meet financial obligations with a precautionary provision for impairment losses may explain the negative effect of current ratio on the SACCO's operational sustainability, as credit risk is an inherent part of the SACCO's operating model.

A majority of SACCOs have loans as their only investment activity. In the event that they have a small membership or that loan take-up is slow, they will find themselves in a position of excess liquidity. Particularly in the rural areas where credit is viewed in a negative light by society, SACCOs find it difficult to achieve an optimal balance between savings and credit to ensure long-term operational sustainability.

The results of the study indicate a significant positive relationship between capital ratio (CAPS) and operational sustainability. The capital ratio gives an indication of the SACCO's financial strength and its ability to withstand financial stress and remain solvent. The stronger the financial strength of a firm is, the more likely it is to be operationally sustainable. There is a strong link between a firm's capital structure and its profitability, due to the different costs of components making up its capital structure, and hence a direct impact on operational sustainability. The results of the study are in line with findings by Robinson (2001) and Kyereboah-Coleman (2007).

Relationship between Operational Self-Sufficiency and Operational Variables

Deposit Mobilisation (DEP) refers to a financial institution's asset and liability management process, the ability to transform deposits into loans whilst maintaining sufficient liquidity.

Our model shows a significant negative relationship between DEP and OSS. Distler and Schmidt (2011) affirm that the efficient mobilisation of savings is a significant determinant of SACCOs' operational self-sufficiency. Owing to SACCOs' overreliance on savings as a source of finance and the prohibitively high cost of capital from the capital markets, the ability to mobilise deposits is critical to long-term sustainability. According to the theory of asset transformation, high deposit mobilisation should translate to profit maximisation and, in turn, high levels of operational sustainability; however, in the case of this study, the relationship is negative. This corroborates findings by Marwa (2015). Savings are a result of excess income over consumption. In rural and peri-urban areas, consumption levels tend to be lower due to limited services and economic activity, which would translate to higher savings, assuming comparable levels of income. This would mean that in these areas the cost of finance and transacting is high, as a result of limited investment options and lack of institutional thickness. An environment like this would translate to low levels of profitability, eroding the ability to finance operating expenses. It is also commonplace that the interest on deposits paid by the SACCOs is significantly higher than commercial financial institutions, implying a high cost of doing business in the form of high interest expense. This results in higher total expenditure and lower operational sustainability ratio, all other things being equal.

The variable SIZE, which represents the number of members in a SACCO, shows a negative and insignificant relationship to the level of operational self-sufficiency. This relationship implies that the larger a SACCO, the less likely it is to be sustainable. This is consistent with the economic concept of diseconomies of scale, which posits that beyond a certain equilibrium a firm sees an increase in marginal costs when output is increased, instead of the converse. A larger lending base may make credit risk management less effective given the limited resources available to SACCOs, leading to high levels of impairment and negatively affecting their sustainability. Sebhatu (2012), Meyer (2002) and Nyamsogoro (2010a) are in agreement with these findings and they cite opportunity for mismanagement and high transaction costs associated with a growing membership. These findings are, however, contrary to Bogan (2012), Mersland and Storm (2009) and Goddard et al. (2008), who find a positive relationship between SIZE and sustainability on the premise of economies of scale and the benefits of membership diversity. SIZE is found to not have a strong causal relationship with operational sustainability as in Hartarska (2005). This is attributable to the fact that diseconomies of scale are likely to happen in an environment with weak governance

and management oversight and not a generalisation that can be made about all SACCOs. LOGOTRI (2006), however, maintains that the larger the membership, the less likely a SACCO is to be sustainable.

CHAPTER 5

CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter concludes the study and offers recommendations for policymakers, and unexplored angles for future research. It also discusses various challenges encountered in carrying out the study.

5.2 Summary and Conclusion

This study employed panel regression data analysis to identify financial and operational characteristics of 39 SACCOs in Botswana between 2005 and 2015 which determined their operational sustainability. Empirical literature on SACCOs in Botswana related to this study focuses primarily on analysing financial performance. To the best of the author's knowledge, this is the first empirical study that explores the operational sustainability of SACCOs in Botswana.

The factors influencing SACCO operational sustainability in Botswana are not unique and are largely consistent with literature on SACCOs across the African continent. The relationship between deposit mobilisation (DEP) and operational sustainability is, however, unique to the study, showing a relationship divergent from a majority of literature on its ability to determine SACCO operational sustainability. This study shows a significant negative relationship, whilst a wide range of literature finds a significant positive relationship. The implication is that there is a point beyond which lazy deposits become a threat to the long-term sustainability of a SACCO. This is because members join for two reasons: access to credit and return on savings. If SACCOs have excess liquidity, they are not lending or investing and forgo interest income, which in the long run is not aligned to the investment objectives of its members. A significant number of SACCOs in Botswana have lazy deposits. This is evidenced by large amounts of cash in bank accounts over the medium term (greater than one year), which is not channelled to revenue-generating activities, hence the divergent research finding. The primary objective of the SACCOs is to achieve social impact through asset transformation, lending out member deposits and generating a

maximum return on savings. Failure to optimally manage deposits will thus have a negative impact on operational sustainability.

The relationship between return on assets and OSS proved to be the most significant with a positive impact on operational sustainability. This implies that profitability is a significant determinant of sustainability. Similarly, capital structure has a positive relationship with operational sustainability, albeit an insignificant one. This means a SACCO's capital structure does not necessarily determine its ability to remain sustainable. The research findings further reveal that size and liquidity (current ratio) were insignificant in determining SACCO sustainability in Botswana during the period under review.

5.3 Policy Implications

The study reveals that the significant determinants of operational sustainability are those linked to the efficient deployment of deposits made by members. The investment of member savings is linked to return on assets, deposit mobilisation, and liquidity.

The managers of SACCOs need to have clearly articulated investment strategies that are aligned to their members' investment objectives, with investment portfolios in line with the modern portfolio theory which stresses portfolio diversification and the optimisation of risk and return. Furthermore, portfolio diversification should be prioritised as a way of enhancing profitability and avoiding excess liquidity by having large sums of lazy deposits. Investing in treasury bills, unit trusts, stocks and the various investment options available in Botswana's financial industry should be considered. Government, together with the central bank, has a role to play in promoting the institutional thickness of investment institutions by implementing policies and frameworks that facilitate the establishment of asset management firms, an increase in listed firms, and clear guidelines and regulations around offshore investments. This will widen options for portfolio diversification.

Similarly, the credit risk associated with heavily relying on loan interest income needs to be managed. The SACCO regulatory body has to ensure that every SACCO has a clearly articulated credit policy and, as part of their annual reviews, evidence controls around adherence to that policy in extending loans to its members. The central bank should lobby for a credit referencing system that will reduce information asymmetry in the financial sector to

make lending more affordable and less risky. This will translate to reduced credit risk and increased profitability for SACCOs.

The government of Botswana and the Non-Banking Financial Authority need to amend their mandate to cover organisations such as SACCOs. This will enable SACCOs to be under scrutiny and will call management to account for their investment strategies and capital management. A regulator supported by operating guidelines will undoubtedly discourage misappropriation and mismanagement, which will ultimately translate to improved profitability and operational sustainability within the industry.

Although the study does not evidence causality in relation to operational sustainability, our data show that SACCOs with larger membership sizes have higher levels of profitability. For a majority of SACCOs in Botswana, membership is limited to employees of a particular institution and therefore growth is limited. SACCOs need to explore innovative ways of managing credit risk for members who are not employed under the same corporate body. Solutions could include, but are not limited to, contractual agreements to make direct deductions from members' employers before their salary is remitted to them. As SACCOs have social welfare objectives coupled with their financial investment objectives, social initiatives such as a social funeral cover known locally as *matshidiso* would be one way of attracting and maintaining members.

Finally, SACCOs in Botswana have proved to be resilient and sustainable entities that can assist the government in driving economic growth, diversification of economic growth drivers and financial inclusion. The ministry of investment, trade and industry could also facilitate the establishment of co-operative banks. The government needs to channel resources into establishing supporting policies and legislature, such as the transformation strategy, to enable these entities to thrive. Frequent performance reviews and monitoring will be required to guarantee the effectiveness of initiatives that have been put in place to ensure the co-operative industry in Botswana achieves its potential of being a major contributor to the country's economy.

5.4 Recommendations

The findings of this study highlight various opportunities for further research on the drivers of SACCOs' sustainability that can be investigated in Botswana and across the globe. The study can further extend to the following:

- Establishing whether SACCOs in Botswana are financially sustainable.
- Understanding the impact of income diversification on the profitability of SACCOs. Empirical studies across Africa show that a majority of SACCOs rely solely on interest income and it does not have an adverse impact on their ROA. However, in Botswana, SACCOs that rely solely on interest income have a low ROA and have challenges of excess liquidity.
- Establishing whether the demographic and economic status of the membership of the SACCO has an impact on its operational sustainability. Studies show that women are better payers, and the life cycle theory states that individuals base consumption on a constant percentage of their anticipated life income, which impacts their savings and spending patterns. The characteristics of the membership composition could further enhance the explanatory power of the size variable.
- Determining whether geographical location has an impact on SACCOs' sustainability. Rural areas have challenges that are specific to their operating environment, and generally limited access to finance due to certain cost inefficiencies for extending financial services to rural areas. Are SACCOs in urban areas more sustainable than those in rural areas in Botswana?
- Discovering the effect of growth/penetration of savings or investment societies on SACCOs' operational sustainability. In Botswana, SACCOs and savings and investment societies are alternatives. The commercial banks have recently developed a solution to bank savings societies; if they were to be regulated, would they threaten the existence of SACCOs?
- Establishing whether corporate governance has an impact on the operational sustainability of SACCOs in Botswana. Good corporate governance has been identified as a catalyst of efficiency and integrity, and underpins market confidence of organisations globally. Sound corporate governance has been found to promote economic growth and financial stability.

5.5 Limitations

As shown in Aziakpono (2015) in his study about the sustainability of SACCOs in Tanzania, sustainability can be depicted by operational self-sufficiency and financial self-sufficiency. However, due to data limitations and the inability to isolate operational expenses and revenues from the total revenues and expenses reported by the SACCOs, we were limited to determining operational self-sufficiency (OSS). One of the critical dependencies of the validity of the conclusions made is the accuracy of the secondary data extracted from the SACCOs' financials.

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