THE EFFECT OF INFLATION ON MEMBERS SAVINGS IN SAVINGS AND CREDIT CO-OPERATIVE SOCIETIES IN KISUMU COUNTY, KENYA

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DECLARATION

I declare that the work presented here is to the best of my knowledge and belief original and the result of my own investigation, except as acknowledged, and has not been submitted, either in part or whole, for a degree at this or any other University. Formulations and ideas taken from other sources are cited as such. This work has not been published.

Signed…….. Date……

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This proposal has been submitted with my approval as the University Supervisor.

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Finally, I owe my gratitude to a number of people who in one way or another contributed towards completion of this project especially my fellow colleagues at work, staff and students of University of Nairobi.

DEDICATION

This work is dedicated to my daughter Cilliah, son Barack and wife Phoebe.

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LIST OF ABBREVIATIONS

ACOSCA…….Africa Confederations of Savings and Credit Associations

AfDB…….……..….African Development Bank

CAK…….....Cooperative Alliance of Kenya

CPI …….…….Consumer Price Index

FSD ……Financial Sector Deepening

GDP…….....Gross Domestic Product

ICA……..…International Cooperative Alliance

ICMF….....International Cooperative Mutual Funds

KNBS…….……..Kenya National Bureau of Statistics

KNFC…….....Kenya National Federation of Cooperatives

KUSCCO…….……...Kenya Union of Savings and Credit Cooperative

MIED……..Ministry of Industrialization and Enterprise Development

SACCOS…….……Savings and Credit Cooperatives Societies

SASRA……....Sacco Societies Regulatory Authority

SCCLSA…….Savings and credit cooperative league of South Africa

SME……..…Small and Medium Enterprises

WOCCU……..……World Council of Credit Unions

SPSS……Statistical Package for Social Sciences

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ABSTRACT

Both changes in inflation rate and savings levels around the globe considerably affects decision making of economic agents (both individuals and institutions) and are arguably considered as major policy variables in macroeconomics. Various factors have influence on saving rate and one of them is inflation. Theoretical and empirical studies have mixed results on the relationship between these two variables and therefore provide a fruitful area for further research for developing countries such as Kenya. This study therefore sought to assess the correlation between these two variables and whether inflation variability has a significant influence and therefore can be a threat to the growth, development and survival of Savings and Credit Cooperative Societies in Kenya. Co-operatives play a major role in resources mobilization, agro-processing and marketing of agricultural produce. The movement plays an important role in wealth creation, food security and generation of employment and therefore alleviating poverty. From the foregoing it is evident that the cooperative movement is of strategic importance in encouraging national savings and development of the country. Changes that occur in the co-operative sector therefore affect the development of the country and the general welfare of the members. The study used a correlation design. Secondary data was drawn from the Kenya National Bureau of Statistics relating to yearly average inflation rates during the period between 2009 and 2013 and from Kenya Union of Savings and Credit Cooperatives (KUSCCO) Kisumu County, relating to yearly members savings with SACCOs, number of members in SACCOs, dividend payout rate SACCOs apply on savings of members, type of SACCOs (whether informal or formal as regards to source of membership) and age of SACCOs. The number of SACCOs from which data was collected was 47. Analysis was performed using descriptive analysis, correlation analysis, and regression analysis. This was done through SPSS software. The study concluded that there is a negative relationship between inflation and savings levels in SACCOs and that this relationship is insignificant ($p>0.05$). The results further showed that dividend rate paid out to members on their savings has positive relation with the savings level. The variable however does not significantly affect the savings model as the p-value was 0.288 ($P>0.05$). Number of members in SACCOs had a positive relation with the savings and indicating that the relationship was highly significant in model with a p-value of (0.000). SACCO type had a positive relation with the savings. It indicated that moving from informal to formal SACCO would increase the saving and vice versa. With a p- value of 0.011, this relationship is significant and affects the saving model. Lastly, age of SACCO had a positive relation with savings as a unit increase in the age of SACCOs would significantly increase the savings with a p-value of less than 0.05.

CHAPTER 1; INTRODUCTION

1.1 Background of the study

Much emphasis has been placed on studying the drivers of inflation rather than the effects of inflation especially on savings; yet savings remains a major precondition for developing countries to take off in economic development. The main driver of short-run inflation in Ethiopia and Uganda for example is known to be a surge in money supply (Durevall, 2012). This money supply accounts for 40 percent and one-third respectively. In Kenya and Tanzania, oil prices seem to drive inflation, accounting for 20 and 26 percent respectively, although money growth has also made a significant contribution to the recent increases in inflation in these two countries (AfDB briefs, 2011). For developing countries, there is significant evidence for the negative effect of inflation variability on growth when the inflation rate is high; specifically, when the inflation is higher than 10 percent, an increase in inflation is followed by a decrease in growth (Jha & Dang, 2011).

Savings mobilization is a key component in any development endeavor as it is believed to be the surest way of increasing income and boosting productivity in attempt to eradicate poverty (Cheruiyot, 2012). SACCOS are key to the realization of vision 2030 whose objective is to make Kenya a newly, industrialized, middle income country providing high quality life for its citizens. The Vision 2030 economic pillar aims at mobilizing savings for investment need and SACCOS have helped mobilize billions of shillings from members to finance education through affordable loans to the members and provide credit facilities to meet agricultural, medical and legal services (MIED, 2014).

SACCOS in Kisumu County continue to have positive impact on alleviation of poverty as 95 % of the members fall above poverty level of expenditure of less than ksh 100 per day (Odoyo, 2012). However, much needs to be done to encourage growth and development of SACCOs in Kisumu County. Comparatively, kisumu had 2 DT SACCOs with Nairobi leading at 45, kiambu 10, Nyeri 8 while Bomet had 6 among others (SASRA, 2012).

Relevant theories on inflation and savings emphasize on the drivers of inflation and determinants of savings respectively leading to growth of or decline in savings wealth. These theories include; the monetarist theory which identifies excess money supply as the long-term cause of inflation (Watchel, 1972), Keynesian theory that believes inflation originates from three sources namely expansionary forces (demand pull inflation), rise in input prices and concentrated industries or what they call profit inflation (Sheffrin, 2003). Psychological and sociological theories of saving consider additional determinants of saving and asset accumulation, including personality characteristics, motives, aspirations, expectations, and peer and family influences which encourages or discourages households and individuals to save and Marxist theory which suggests that the real kind of inflation is in the cost of production measured in labor (Bresciani, 2006).

There are several determinants of savings that have been identified that directly affect savings of individuals and indirectly affect savings levels of SACCOs. WOCCU (2010) found relationship between the number of members and savings levels in SACCOS, dividend payout rates that SACCOS apply on the savings of members and the savings levels, age of SACCOS and type of SACCOS: whether they are formal or informal. Sebhatu (2012) identified income level of members of SACCOS while Burney and Khan (1992) identified gender of members and education levels.

1.1.1 Inflation

Labonte (2011) defines inflation as a sustained or continuous rise in the general price level or continuous fall in the value of money. Gary (2013) describes inflation as a measure of a general increase of the price level in an economy, as represented typically by an inclusive price index, such as the Consumer Price Index in the United States. The term indicates many individual prices rising together rather than one or two isolated prices, such as the price of gasoline in an otherwise calm price environment.

Schiller (2003) identifies different types of inflation; the most common type inflation is called demand-pull or excess demand inflation. It occurs when the total demand for goods and services in an economy exceeds the available supply, so the prices for them

rise in a market economy. Historically this has been the most common type and at times the most serious.

Schiller (2003) identifies cost-push inflation where costs of production rise, for one reason or another, and force up the prices of finished goods and services. Often a rise in wages in excess of any gains in labor productivity is what raises unit costs of production and thus raises prices. This is less common than demand-pull, but can occur independently as well as in conjunction with it.

Schiller (2003) also talks of pricing power inflation, which is more frequently known as administered price inflation. It occurs whenever businesses in general decide to boost their prices to increase their profit margins. This does not occur normally in recessions but when the economy is booming and sales are strong. It might be called oligopolistic inflation, because it is oligopolies that have the power to set their own prices and raise them when they decide the time is ripe.

Batten (1981) identifies sectoral inflation. The term applies whenever any of the other three factors hits a basic industry causing inflation there, and since the industry hit is a major supplier of many other industries, as for example steel is, or oil is, that raises costs of the industries using say steel or oil, and forces up prices there also, so inflation becomes more widespread throughout the economy, although it originated in just one basic sector.

1.1.2 Savings

The term savings refers throughout this paper to voluntary savings unless otherwise specified. Throughout the time, all around the world, households have saved as insurance against emergencies, for social and religious obligations for investments and for future consumption (Rutherford, 1999). According to Family Economics & Financial Education (2010) savings is the portion of income not spent on current needs. Economists and social scientists often consider saving to be what is left of disposable income after consumption is deducted (Lunt & Livingstone, 1991), but according to Katona (1975), this is not what the average person thinks of as saving. To the average person, saving refers to money put

in bank accounts or other assets to protect one from future insecurities or to purchase goods and services (Katona, 1975; Lunt & Livingstone, 1991).

Katona (1975) proposed three categories of saving habits among average persons: contractual saving, where one makes routine installment payments for an asset like a home mortgage, which is forced or obligatory saving; discretionary saving, where one deliberately saves; and residual saving, where one does not spend all of income and therefore saves by default. Domestic saving is constituted of saving by government, the corporate sector and households (Prinsloo, 2005). In an environment of increasing financial intergration, a high level of domestic savings helps to secure macroeconomic stability (Prinsloo, 2001). Indeed, no country is too poor to save if the available potential is effectively used (Adera, 1995). Researchers have found that saving is higher among homeowners (Avery & Kennickell, 1991; Bosworth, Burtless, & Sabelhaus, 1991; Browning & Lusardi, 1996; Rha et al., 2006; Yuh & Hanna, 2010).

Savings rate was reported in Kenya at 16% in 2012 (World Bank, 2012). Cooperatives have mobilized domestic savings to the tune of kshs 400 billion, accounting for 33% of national savings, and are a major driver of the economy (MIED, 2014). Savings mobilization should be backed by adequate institutional capital which ensures permanency, provide cushion to absorb losses and impairment of members' savings (Evans, 2001). Across countries higher saving rates tend to go hand in hand with higher income growth—a fact that has been taken as proof of the existence of both virtuous cycles of saving and prosperity and poverty traps of insufficient saving and stagnation (World Bank 2000).

1.1.3 Effect of inflation on savings

It is often argued that when price increases are expected, expenditures are advanced in time. If the expenditures are on investment goods, measured saving will increase; otherwise, consumption increases. This is called intertemporal substitution and is relatively rare because rational behavior requires that the expected price increases be sufficiently large and certain to make it worthwhile to maintain (Wachtel, 1977).

Inflation results into uncertainty effect. "Uncertainty effect" refers to a set of hypotheses which suggest that inflation leads to increased saving. One such hypothesis is based on Katona's (1975) finding that the public has a strong distaste for inflation. Inflation is viewed as an undesirable phenomenon, and its presence is associated with increased pessimism about economic conditions, which may lead to increased saving for precautionary reasons. Thus, inflation is a proxy for attitudes about economic conditions, particularly uncertainty (Wachtel, 1977). Furthermore, if different groups within the household show different propensities to consume and are subject to different taxes, redistribution will have an effect on their aggregate savings (Howard, 1978).

Inflation also affects saving behavior indirectly through its effects on other determinants of saving. In particular, inflation will affect interest rates and the real wealth of households. The real value of households' financial wealth is often eroded in the inflationary periods, and an attempt by individuals to maintain the purchasing power of their stock of financial assets will lead to higher savings (Wachtel, 1977).

Money illusion effect is experienced on savings when inflation is not recognized. Consumers Overestimate the purchasing power of their nominal income and decide to raise real consumption levels. Consequently, real consumption expenditure is increased, and saving is reduced. Money illusion is contingent upon consumer ignorance. However, the consumer sector is not necessarily always ignorant of the current inflation rate. It was originally explored by Branson and Klevorick (1969) and later by Wachtel (1977).

Branson and Klevorick found a very large money illusion effect. Their results suggested that a 1 percent price increase leads to an increase of 0.4 percent in real consumption, rather too large to be believed. Wachtel suggests that the degree of money illusion has decreased substantially in recent years. In periods of little overall inflation errors in perception are likely to be small in magnitude and of little consequence, and there is little incentive to invest in price information. Although money illusion is observed in periods of low inflation, the money illusion phenomenon has tended to disappear as inflation becomes more severe.

From the above literature, it is clear that there is no agreement as to the relationship between inflation and savings since inflation effects have been experienced both negatively and positively as regards savings. Either, the above studies were both carried in a different setting; America. The context of the above studies was individual households and not savings and cooperative societies.

1.1.4 Savings and Credit Co-operative Societies in Kisumu County

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A Savings and Credit Cooperative is a type of cooperative whose objective is to pool savings for the members and in turn provide them with credit facilities (UN-HABITAT, 2010). A savings and credit society, also known as a credit union is a cooperative financial institution that is owned and controlled by its members and operated for the purposes of promoting thrift, providing credit at low interest rates and providing other financial services to its members (KUSCCO, 2012). SACCOs indeed are predominant form of external financing for small and micro enterprises in most of the developing countries. Contemporary studies show that SACCOs' role towards developing these enterprises is increasing rapidly (Mumanyi, 2014).

Kisumu County has 56 SACCOs spread in the six parliamentary electoral constituencies of Nyakach, Nyando, Muhoroni, Kisumu Town East, Kisumu Town West and Kisumu Rural. The SACCOs provide financial services of savings and various types of loans for

development, school fees and emergencies (Odera, 2010). Notable membership is drawn from employees in the government and private institutions, religious groups, small scale traders, education institutions, farmers, nongovernmental organizations, transport operators and fish traders among others (KUSCCO, 2014). SACCOS in Kisumu County continue to have positive impact on alleviation of poverty as 95 % of the members fall above poverty level of expenditure of less than ksh 100 per day (Odoyo, 2012).

As at December 2012, 7 applications for deposit taking SACCOS had been received and 2 successfully licensed by the SASRA with the remaining 5 being under review for licensing (SASRA reports, 2012).

1.2 Research Problem

Kenya has experienced large swings in inflation in the recent past, first increasing to 16 percent in mid 2008, falling back to under 4 percent in mid 2010, only to increase again to almost 20 percent at the end of 2011. Most of these inflation variations have been unanticipated in nature. Inflation variations have direct effects on the purchasing power of households (Central Bank of Kenya, 2013). When the purchasing power of households is affected, their consumption and saving patterns are likely to change.

Kenya's saving rate of 13% is still lower compared to worlds average of 18% and there is need to boost the savings rate match the top savers in the worlds like Kuwait who saved 59% in 2013 (KNBS, 2014 & Economic watch, 2014). The Savings and Credit Co-operatives (SACCOs) sub-sector has over 16,000 societies with 14 million members. About 28 million Kenyans, 63 per cent of the entire population, depend on the co-operative related activities, directly and indirectly, for their livelihoods. In Kenya, SACCOs control 30 per cent of the GDP and accounts for 80 per cent of the total accumulated savings (MIED, 2014).

Given the fact that SACCOs greatly rely on member's savings for capital accumulation, and taking into consideration the major contribution SACCOs make towards national savings rate in Kenya and poverty alleviation, there is need for SACCOs to enhance and

safeguard the savings/deposits from members. This can be achieved by SACCOs identifying relationships among variables that affect savings/deposits and make use of such information in planning and predicting their operations to enhance their chances of maintaining or increasing the growth rates in their savings. It is against this background that this study proposes to establish whether there exists a link between inflation rates variations and SACCO members' savings by studying the trend of savings variations of members' savings in SACCOs against inflation rates for a five year period (2013 to 2009). This research will endeavor to answer the question: How does inflation affect the savings of members of savings and credit cooperative societies in Kisumu County?

1.3 Objective of study

The study seeks to determine the effect of in inflation on members' savings in SACCOs in Kisumu County.

1.4 Value of the study

The study is important to researchers and scholars as the findings will add to the existing body of knowledge in the areas of savings, inflation decision making and form a basis for further research.

The findings of study will improve the understanding of the management of SACCOs, members and government agencies on the recent experiences where inflation rate has been a challenge and how it affects the savings of SACCOs in the short and long run and help them consider inflation as a factor when making strategic decision in pursuit of SACCO objectives.

This study is also important to theories underlying inflation and savings as it contributes to the theory by focusing on inflation as a determinant of savings especially in developing countries like Kenya.

CHAPTER 2; LITEREATURE REVIEW

2.1 Introduction

This chapter looks at previous literature that relates to the subject of study. It is organized as follows: The first Section discusses the theories of inflation and savings under the theoretical literature while the rest of the section talks about the determinants of savings among SACCO members and an empirical review of literature. The chapter closes with a discussion of the gap in knowledge.

2.2 Theoretical review

There is a great deal of economic literature concerned with the question of what causes inflation and what effect it has. There are different schools of thought as to the causes of inflation. These can be divided into two broad categories: quality theories of inflation and quantity theories of inflation. The quality theory of inflation rests on the premise of a seller accepting currency to be able to exchange that currency later for goods that are desirable as a buyer. The quantity theory of inflation hinges on the quantity equation of money that relates the money supply, its velocity, and the nominal value of exchanges. This study is premised on 3 theories; the monetarist theory, Keynesian theory and Marxist theory.

2.2.1 Monetarist theory

Monetarists claim that although short run inflation may have many sources, long-term inflation is always a monetary phenomenon which arises when the money supply expands more rapidly than output (Leidler, 1981). They reject the notion that long run inflation can be caused by non monetary factors such as expansive fiscal actions, cost push influences, food and fuel shortages among others. Such factors, they argue can raise prices of certain products but unless accompanied by an excessive increase in the supply

of money, the rise in prices of those commodities will be eventually offset by declines in prices of other commodities leaving the average price unchanged (Jahan & Papageorgiou, 2013). Monetarists regard the quantity of money as an exogenous variable, implying that the monetary growth is an independent causal variable governing the rate of inflation with the flow of causation running one way from money to excess demand (excess demand over aggregate supply to prices). Stagflation in their view occurs particularly when inflationary expectations are very strong and that people are convinced that prices will continue to rise (Berthold & Grundler, 2012).

The inflation process works through two lags namely price adjustment lag and price expectation lag (Batini & Nelson, 2002). Price adjustment lag refers to a lag between excess demand and inflation. This lag occurs because businessmen respond to excess demand by first increasing the output and depleting inventory stocks and then by increasing prices. When output expands, resources become increasingly scarce relative to demand with the result that factor prices and output prices increasing. The price expectations lag refers to a lag between inflationary expectations and current rate of inflation. The current rate of inflation is believed to be influenced by inflationary expectations of previous periods. The lag occurs because people cannot predict the future with absolute certainty and that were they be able to so, then the rate of inflation would always be the one that actually occurs (Rodriguez, 2008).

Monetarists say that since inflation is caused by excessive monetary growth, it can be controlled by restraining monetary expansion (Gokal, 2004). However, they also point out that such mechanisms can not only work in the long run but are done at the expense of economic expansion or growth and that economy may experience stagflation (Dem, 2004). In addition to slowing down the monetary growth, Friedman (1968), a leading monetarist advocates the use of indexation to control inflation (Lothian, 2009).

2.2.2 Keynesian Theory

Keynesians claim that inflation originates from three sources namely expansionary forces (demand pull inflation), rise in input prices and concentrated industries or what they call profit inflation (Sheffrin, 2003). Expansionary forces generally result from stimulative fiscal and monetary policies although there are instances where they result from private sector through high capital spending on plant and equipment, housing booms and heavy consumer expenditures (khan, 1976). The rise in input prices result from labour unions pressure to raise wages to a level beyond that warranted by the level of productivity, the tendency of raw material suppliers to form monopolies or fixing of prices through collusion and creating commodity shortages. The rise in input prices causes a rise in output prices. Empirical studies have shown that most firms set prices in accordance with some version of cost plus principle where average cost of production is determined and a margin of profit added in accordance with some predetermined target of rate of return on investment (Stein, 2013).

Concentrated (oligopolies and monopoly oriented) industries contribute to inflation through their tendency to respond to rise in demand by increasing prices rather than outputs. Oligopolists are reluctant to lower prices even when demand is declining because they fear sending wrong signals to their rivals that they are cutting prices to increase their market share (Heusz, 1977).

In recent years, some Keynesians have pointed a number of factors as source of inflation. Nordhaus (2001) regards politics as a source of inflation and argues that the party in power attempts to blow up the economy before elections to gain the support of voters and deflates it afterwards thereby causing a certain amount of inflation over the course of political campaign. Gordon (1990) says that government itself becomes a source of inflation when it surrenders to tax payers resistance against tax increases made necessary by increase in expenditure and bows to the demands of beneficiaries of government programs who resist expenditure reductions. Partee (1982) regards many institutional

arrangements as a source of inflation as they are geared to inflationary solutions to income distributions problems. Minimum wage laws are escalated to keep pace with inflation, social security and some other retirement benefits are indexed to the cost of living and public employees are given comparability increases without regard to productivity.

Keynesians claim that inflation can be controlled by restrictive fiscal and monetary policies, supplemented with either atomization of big businesses and big labour unions or by some sorts of income policy (wage and price control). An improvement in productivity can also curb inflation (Perry, 2013). Atomization of big unions and big businesses will help in the fight against inflation because they make product and labour markets more competitive, curtailing upward pressure on costs and prices. Keynesians further assert that restrictive fiscal and monetary policies alone may be adequate where inflation is demand related. Where inflation is cost or profit related, restrictive and monetary policies should be accompanied by incomes policy and or with measures to increase productivity (Dimand, 2014).

2.2.3 Marxist Theory

In Marxist, economics value is based on the labor required to extract a given commodity versus the demand for that commodity by those with money (Bresciani, 2006). He says that the fluctuations of price in money terms are inconsequential compared to the rise and fall of the labor cost of a commodity, since this determines the true cost of a good or service. In this, Marxist economics is related to other "classical" economic theories that argue that monetary inflation is caused solely by printing notes in excess of the basic quantity of gold. However, Marx argues that the real kind of inflation is in the cost of production measured in labor. Bresciani (2006) says that because of the classical labor theory of value, the only factor that is important is whether more or less labor is required to produce a given commodity at the rate it is demanded.

2.2.4 Psychological and Sociological Theory

Psychological and sociological theories of saving consider additional determinants of saving and asset accumulation, including personality characteristics, motives, aspirations, expectations, and peer and family influences. Some of the propositions emphasize the effects of relatively stable personality characteristics on asset building. Other psychological and sociological propositions assume that saving-related preferences and aspirations are not fixed and in fact seek to explain how motives, aspirations, and expectations are shaped. The propositions that emphasize relatively stable personality characteristics typically come from psychology. For example, psychologists have examined the effects of thrift, conscientiousness, emotional stability, autonomy, extraversion, agreeableness, inflexibility, and tough mindedness on saving (Nyhus & Webley 2001; Wärneryd 1996).

The propositions that seek to explain how motives, aspirations, expectations, and even preferences are shaped come from both sociology and psychology. Some scholars have emphasized social norms, suggesting that the norm of "conspicuous consumption" leads people to over-spend (and thus to under-save). Some researchers consider the effects of families and peers. For example, Stack (1974) suggests that demands from social network members for money or other material assistance can sabotage efforts to save. Literature on financial socialization (Chiteji & Stafford 1999; Cohen 1994) suggests that social network members can strongly influence an individual's consumption patterns, saving-related beliefs, and aspirations and expectations for saving. For example, a child who knows that her family spends carefully and saves regularly, who overhears and perhaps participates in conversations about stock performance, and who is encouraged to have her own savings account is expected to be more financially sophisticated and more inclined to save as an adult than an individual raised in a family that does not save and does not make use of a variety of financial products.

2.3 Determinants of savings by SACCO members

Sebhatu (2012) carried out research on Determinants of saving of cooperative members in Ethiopia and identified household income as having a significant positive relationship to savings. Similar positive result were found by Sameroynina (2005); Brata (1999); Khalek et al. (2009); Schrooten and Stephan (2003) showing that income positively influences savings by SACCO members. The results of the study also show that savings were affected by gender. Considering the gender dummy, he concluded that women co-operators save more than men. Years of cooperative membership also has a positive relationship signifying that the higher the number of years of cooperative membership, the higher the amount of saving. This is because in-built mechanisms that exist among the cooperative members enable them to be able to mobilize savings more than non-cooperative members.

Household family size also has significant impact on savings. Family size is a major cause of low saving. This result is consistent with Burney and Khan (1992) which suggests that the larger the household size, the higher the expenditure and the smaller the amount of saving by the household.

Age of the cooperative members is negatively associated with savings such that as age of members' increases, it results in a decline in household savings. It is expected that savings by the young member would be diminishing with age as they grow towards and beyond retirement age. This shows that the members lessen their savings, as they grow old. This is confirmed by the life cycle hypothesis of savings, which claims that a person would be expected to save up to a point and then start dissaving as he grows old. Consistent with several empirical studies (Rehman et al., 2010; Robinson, 2001), this finding suggests that age of the household is negatively related to household savings. Cooperative member demographic features such as educational status do have positive effect in the household savings. The rationale behind such type of relationship may be their preference towards education of their children. Elite household heads would like to spend more on their children's education and wish to provide higher studies. In this way,

they spend more and save less. The interpretation is in line with the literature (Burney and Khan, 1992). In contrast, the interest rate was found negative and insignificant in explaining household saving. This means the variable was negatively correlated with the household savings type of financial matters for the family.

WOCCU (2010) identifies the following elements that affect savings in SACCOs: age of SACCOs in which they found out that older SACCOs have inculcated the culture of savings in their members and that existing members have in one way or the other benefited from SACCO products and would want to save more over the years. WOCCU (2010) have also identified the dividend payout rates SACCOs apply on members savings and found out that SACCOs that apply higher rates encourage members to save more. They also identified SACCO type and categorized them into formal and informal depending on the source of membership and concluded that SACCOs that draw membership from formal employment institutions and sectors have more savings than those that draw membership from informal sector. Lastly, WOCCU (2010) identified the number of members as a determinant to savings levels in SACCOs in which they found out that SACCOs with more members generally have higher savings that those with few membership.

2.4 Empirical Studies

Most studies on inflation in Kenya deal with the drivers of inflation for example; Kiptui (2009) focuses on the exchange rate and oil prices using a generalized Phillips curve. The results show that both variables drive inflation in the short run, but that the exchange rate is by far the most important variable. Aggregate demand, measured by the deviation of GDP from trend, has a positive, small and barely significant, effect. In 1970s, countries with high inflation especially the Latin American countries begun to experience a decrease in growth rates and thus caused the emergence of the views stating that inflation has negative effects on the economic growth instead of the positive effects. Evidence showing relationship between inflation and economic growth from some of the Asian

countries such as India showed that the growth rate of Gross Domestic Product (GDP) in India increased from 3.5% in the 1970s to 5.5% in the 1980s while the inflation rate accelerated steadily from an annual average of 1.7% during the 1950s to 6.4% in the 1960s and further to 9.0% in the 1970s before easing marginally to 8.0% in the 1980s (Prasanna and Gopakumar, 2010).

The study by AfDB (2011) reports that monetary expansion is a key driver of inflation in Kenya, but it only accounts for 30% of the variation in the long run. In fact, the exchange rate seems to explain a large part of the variation according to its coefficient, but no details are provided). Most inflation studies have neglected the role of agricultural markets and food supply, even though food has a large weight in the consumer baskets of most sub-Saharan African countries, e.g. 0.57 in Ethiopia and 0.36 in Kenya (AfDB, 2011). In fact, large changes in food supply, which are prevalent in Sub-Saharan Africa, are bound to have at least a short-run impact on inflation. Another view is that world food price increases raised domestic food prices (Abbott & Battisti, 2011).

African development Bank (2011) identifies other causes of inflation as Velocity of Money, Exchange rate and Effects of informal trade. Velocity of money is a key indicator of the pace of monetary transactions, and in turn helps in contextualizing current inflationary developments. Since 2006, the velocity of money has been on an upward trend in especially in Kenya. The increase in velocity is largely due to financial innovations, including the advent of new products such as mobile banking. M-PESA effects in the case of Kenya, the advent of financial innovation such as e-money may have contributed to the increase in velocity of money as seen by the corresponding rise in the number of M-PESA subscribers. The M-PESA has brought more than 14 million customers into virtual banking. According to the IMF (2011) M-PESA processes more transactions domestically within Kenya than Western Union does globally. Evidence shows that the transactions velocity of M-PESA may be three to four times higher than the transactions velocity of other components of money.

A floating exchange rate regime allows domestic and foreign prices to align. Such movements in the exchange rate should therefore allow the pass-through of external developments into the domestic economy as a one-off adjustment, which may be tempered by appropriate prudent fiscal and monetary policies (African Development Bank, 2011).

In Ethiopia, increased informal intraregional and cross-border trade is primarily through cash transactions, which do not often pass through the banking sector. Although the impact of these transactions on inflation may not be very clear from a theoretical perspective, we can conjecture that the price effects generated by rising demand for agricultural commodities in the face of supply shocks has placed a high premium on Ethiopia's inflation (AfDB Briefs, 2011). This rising inflation rates affect the rate of development in a country since the rate of economic growth depends primarily on the rate of capital formation and the rate of capital formation depends on the rate of savings and investment (Datta and Kumar, 2011).

Durevall & Sjö (2012) studied the dynamics of Inflation in Ethiopia and Kenya specifically seeking to understand the drivers of inflation in both countries. They found out that the rise of inflation in Ethiopia and Kenya is not an isolated event; other African countries are facing the same problem. Yet, there is no consensus on the causes of the rise in inflation. A common view is that expansionary monetary policy, primarily due to large government expenditures, is the main cause, possibly in combination with negative domestic food supply shocks (IMF, 2012a)

Misati et al. (2012) estimate a VAR model that includes GDP, money supply, fiscal expenditure and exchange and interest rates. Using innovation accounting they find that M3 is the main driver of prices. The main driving forces are that as government prints money to finance its deficit, it expands money supply to stimulate aggregate demand, or expectations of higher inflation force the authorities to accommodate historical price increases (World Bank, 2012). A study on Kenya by IMF (2012b), which reports results from work in progress on a small monetary model with Kenya-specific features. The

parameters are calibrated, not estimated, which allows for a more complex model specification. According to preliminary findings, imported food price shocks and poor harvests explain some of the inflation dynamics. Many studies assert that expansionary monetary policy is the key cause of high inflation, but there is little consensus on the role of international food prices and very little focus on international energy prices. Nonetheless, to our knowledge no study uses econometric methods to jointly test the role of excess money supply, world food and energy prices, as well as domestic food supply shocks (AfDB, 2013).

It is logical that the first step in controlling inflation should be in identifying its drivers (IMF, 2013). However, in many Sub-Saharan countries it is challenging for monetary authorities to control inflation even if there is a political will, due to weak institutional frameworks, thin financial markets and imperfect competition among banks.

2.4.1 Summary of empirical studies

There is no agreement in the current literature as to the relationship between savings and the rate of inflation. However there is great consensus in economics that the main goal of most developing countries today is to attain sustainable economic growth coupled with price stability and this is the main concern of macroeconomic policy makers in most countries in the world today

All the above studies suggest there is indeed a causal relationship between inflation rates variation and economic growth. However, there is little literature with Kenyan studies on the subject matter. Furthermore most of the studies have been carried out elsewhere and none looks at an in-depth analysis of the relationship between inflation rates variation and savings on SACCOs. Either, these studies were carried out some time back and also in different environments which do not have similar economic, social and political conditions hence making inference to the Kenyan case challenging. This is the gap in knowledge that this study intends to bridge by looking at the extent of the relationship between inflation rates and savings and the direction of the relationship.

CHAPTER 3; RESEARCH METHODOLOGY

3.1 Introduction

This chapter presents the methodology that was used in the study; it highlights a full description of the research design, research variables and provides a broad view of the description and selection of the population. The research instruments, data collection techniques and analysis procedure are also presented.

3.2 Research design

The study applied a quantitative explanatory survey method. Since this research sought to explain a casual relationship between inflation rates and savings levels among SACCOs in Kisumu County, a correlation research design was used. In the development of the research, a regression model was designed from secondary data giving annual figures of the dependent and independent variables in the model. The data was used to develop, and prove the reliability of the model hence assisted in the explanation of the relationship between inflation rates and savings. The annual inflation rates were generated by the Kenya National Bureau of Statistics while data relating to members savings in SACCOs in Kenya shillings, the age of SACCOs in numbers, dividend payout rates, SACCO type (formal and informal) and SACCO membership in numbers were collected from KUSCCO for five year period of study (2009 to 2013).

The design was non experimental in nature since it only described the trend in savings and inflation during the five year period and there after examined their relationships without necessarily manipulating any condition that was experienced during that study period.

3.3 Population

The target population comprised all SACCOs in Kisumu County that were registered with KUSSCO as at 31st December 2013. There were a total of 47 SACCOs as at 31st December 2013 and the study included all the 47 SACCOs.

3.4 Data collection

This study utilized secondary data. Data was collected from Kenya national bureau of statistics relating to average yearly inflation rates from 2009 to 2013 and yearly members savings from KUSCCO registered SACCOs in Kenya shillings, type of SACCO: whether formal or informal, SACCO membership in numbers, age of SACCOs in numbers, and the rates (%) that SACCOs apply on members savings and pay to members as dividends for the five year period (2009 to 2013).

3.5 Data analysis

The modeling was a multiple regression with Savings as the dependent variable while Interest rate on saving, Inflation rate, SACCO membership 0-informal 1-formal and age of the SACCOs were the independent variables. All the independent variables were continuous except for the SACCO members that was categorical and categories in the analysis were 0 – for informal and 1 for formal. The dependent variable was also continuous.

Analysis was done with the expected model being

$$Y_i = X_i B_i + e \quad \text{with } X_i = \begin{matrix} 1 & X_{11} & X_{12} & \dots \\ 1 & X_{21} & X_{22} & \dots \\ : & : & : & : \\ 1 & X_{n1} & X_{n2} & \dots \end{matrix} \quad \text{and } e = \begin{matrix} e_1 \\ \\ : \\ e_n \end{matrix} \quad \text{and } Y_i = \begin{matrix} Y_1 \\ \\ : \\ Y_n \end{matrix}$$

The assumptions are that e is normal with a mean of 1 and constant variance sigma squared, Yi is the estimated, Bi are the constants and the multiple regression equation expanded to

$$Y_i = B_0 + B_1 X_1 + B_2 X_2 + \dots B_n X_n + e$$

With B_0 being the constant, B_1, $B_2 \dots B_n$ being the coefficients for the independent variable

With X_1 being the dividend rate applied on saving as dividend, X_2 being the numbers of members of the SACCO, X_3 was the SACCO type, X_4 represented the age of the SACCO, and X_5 represented the annual inflation rate. e was the error rate.

The regression was done using the enter method that included the entire variable in the model irrespective of whether significant or not. The co linearity test for the independent variable was verified using the variance inflation factor (V.I.F).

CHAPTER 4; DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the results of the study and discussions thereof. The study sought to establish if inflation variability has any significant effects on savings of members of Cooperative society. Data was reliably collected from 46 SACCOs of the 47 that was initially targeted. One SACCO proved to be in active and hence did not have any data during the study period Section 4.2 presents the results of descriptive analysis. Section 4.3 shows the results of regression analysis while section 4.4 presents a discussion of findings.

4.2 Descriptive Analysis

Table 1 below show summarized descriptive statistical data of both independent and dependent variables. The descriptive statistics explored data for the limits and the central tendencies. Considering all the SACCOs for the entire five year period gives a sample of 211 except for where data missed. The savings in kshs ranged by Kshs. $1.5x10^8$, that is between a minimum of Kshs. 156,620 and maximum of Kshs.$1.5x10^8$, which is kshs 150,108,410. The mean over the five year for the SACCOs under consideration was Kshs 8.3361x106 with a very small standard deviation showing that savings are not that spread about the average which is good as it indicates none volatility on the savings

The dividend rate applied on savings ranged between 1% and 10% giving a range of 9%. This might not be good for prediction purpose as the standard deviation of 2.2 for the small figures of dividend rates indicates too much volatility. An average return of 3.7% on the savings is low as compared to other avenues of investments. The maximum of 10% would be indication of good return but the minimum of 1% is not the best. On the membership of the SACCOs can be determined by the number of years of existence and the nature of membership as some SACCOs dictates who could be members. From the data collected the SACCO with least membership had 19 members while highest had

2976 members. This gave an average of 348 members which is not bad but the standard deviation of 525, this may not be good enough for stability of SACCOS since it indicates rate at which members register and pull out across the years. Years of existence ranged from 2 years to 40 years while the average was 13.15 years. Some SACCOs have been in existence for long time while others are new entrants and this explains the large range of 38 years.

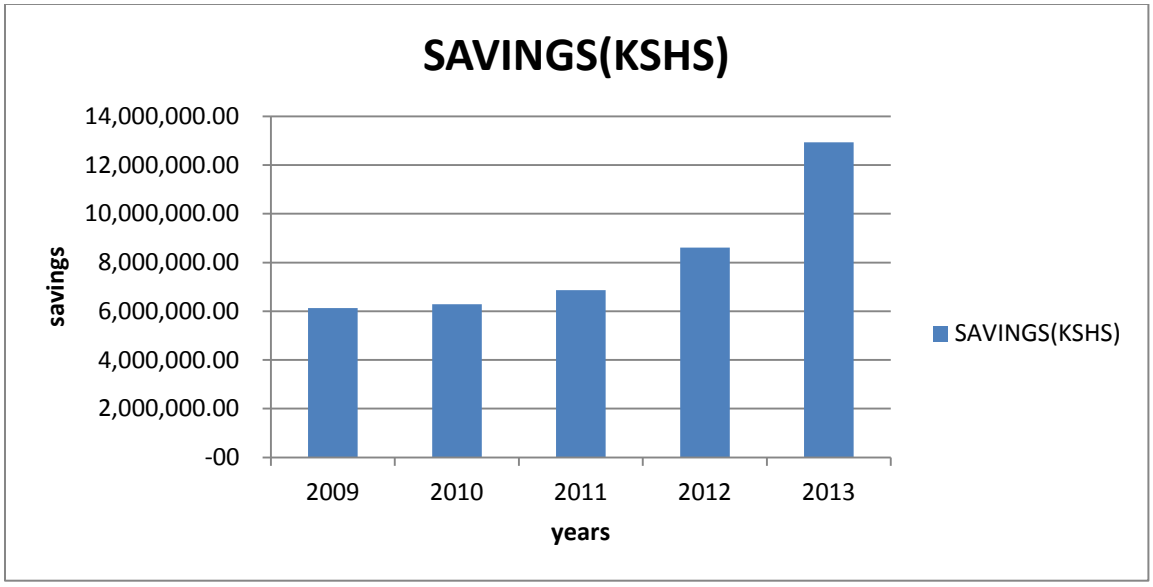
Inflation rates influences saving and should always be on the minimal. The least reported was 4.08% while the highest was 14%. The range was 9.92%. The mean over the five years considered stood at 8.74% which may not be good enough for business and would have curtailed the amount of savings. The standard deviation of 3.5% for inflation is quite big in business sense.

Table 1: Descriptive statistics

Descriptive Statistics								
	N	Range	Minimum	Maximum	Mean		Std. Deviation	Variance
	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Statistic
Savings in Kshs	211	1.50E8	156620.00	1.50E8	8.3361E6	1.10933E6	1.61139E7	2.597E14
dividend rates applied on savings	210	9.00	1.00	10.00	3.6717	.15179	2.19971	4.839
Members of the SACCO in numbers	211	2957.00	19.00	2976.00	347.0806	36.12664	524.76977	275383.313
Years since inception	211	38.00	2.00	40.00	13.1517	.63194	9.17947	84.263
Inflation rates	211	9.92	4.08	14.00	8.7375	.24404	3.54493	12.567

Source: (Author, 2014)

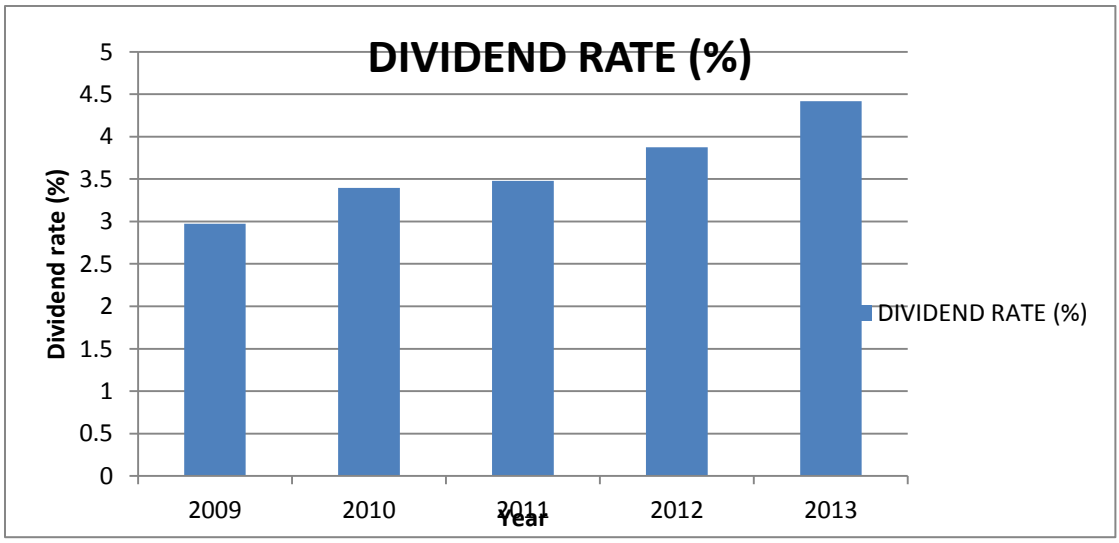
Figure 1: Trend of members' savings in Kisumu County



Source: (Author, 2014)

Figure 1 above shows that members savings have been steadily increasing betwenn 2009 and 2012. However in 2013, there was a sharp increase in members that may be explained by the recent concerted government efforts in encouraging SACCO organisations especially among informal sectors like matatus, boda bodas and small scale traders across the country.

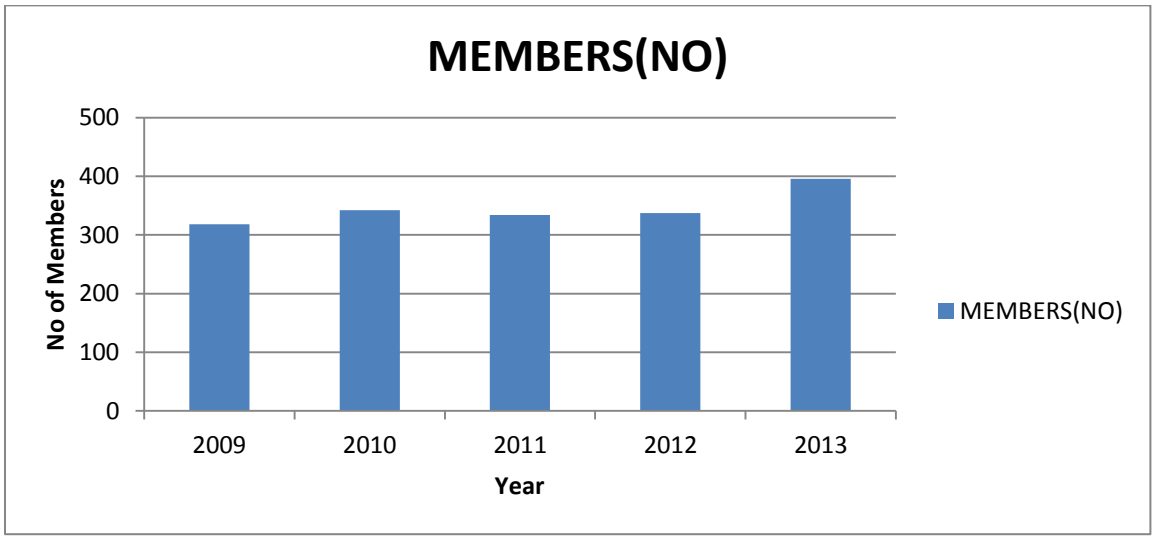
Figure 2: Trend of Dividend rates SACCOs apply on members savings and savings levels



Source: (Author, 2014)

Figure 2 shows that interest rate over the five year period has been steadily increasing

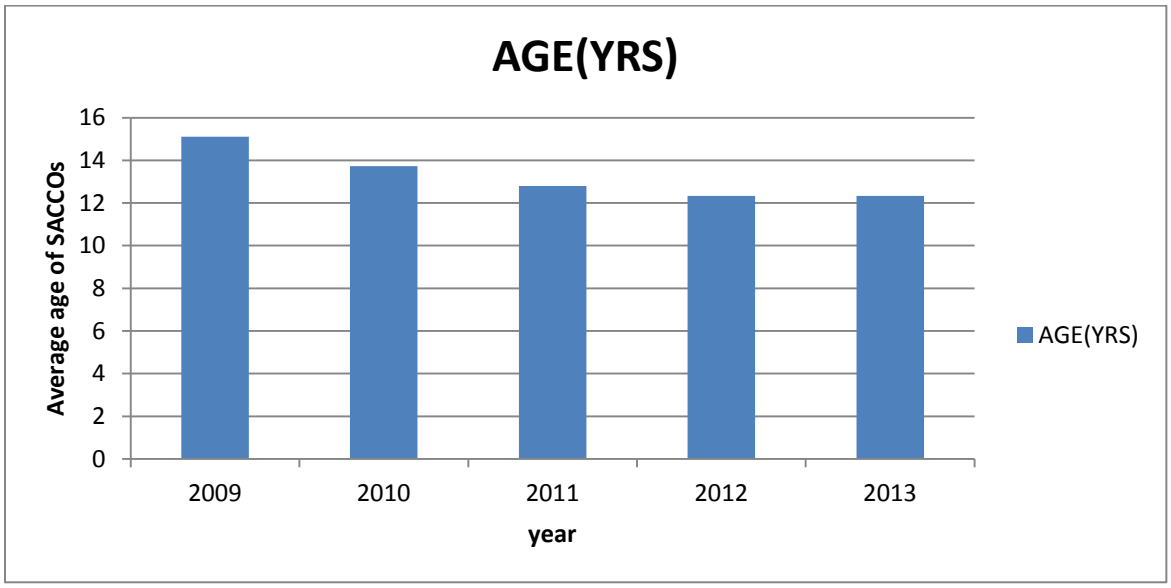
Figure 3: Trend of Number of members in SACCOs in Kisumu County



Source: (Author, 2014)

Figure 3 above shows the steady increase of members of SACCOs explained by increasing number of SACCOs being formed while more members joining already existing SACCOs.

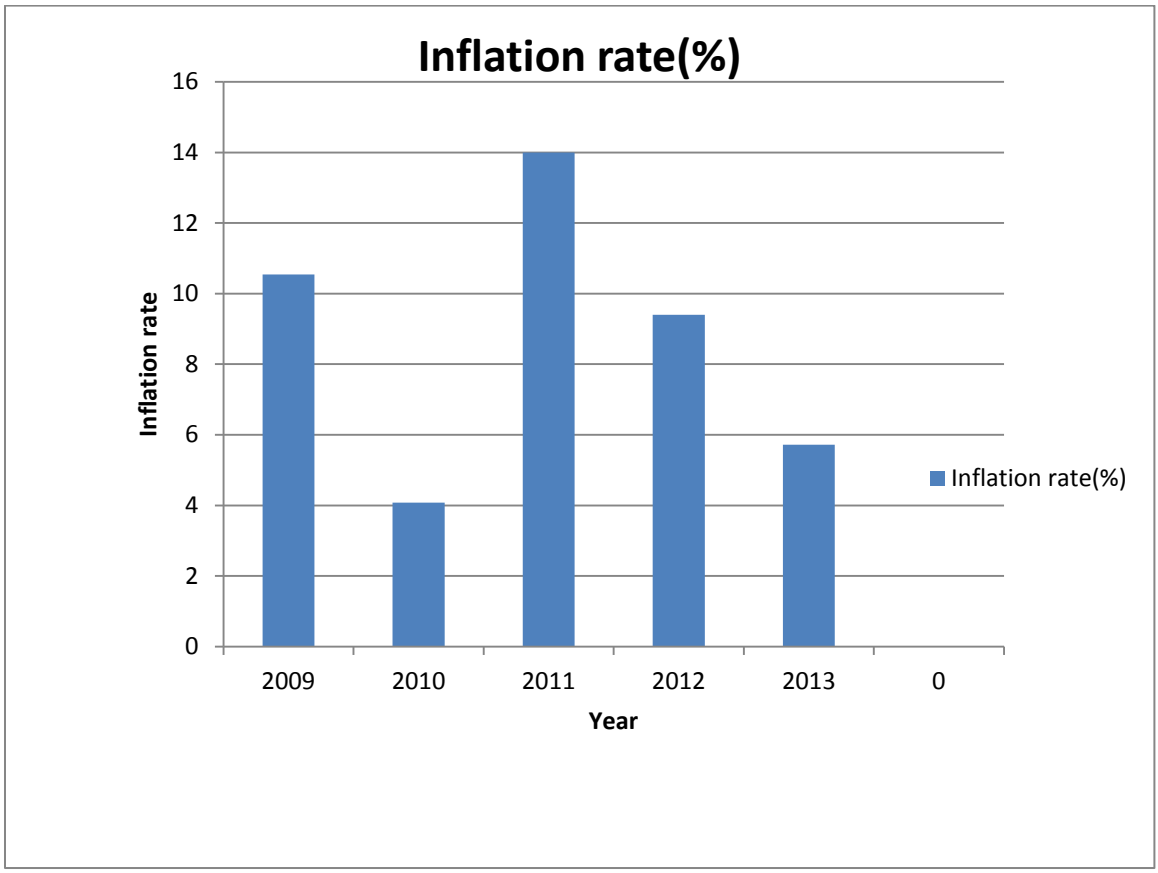
Figure 4: Trend of ages of SACCOs in Kisumu County



Source: (Author, 2014)

Figure 4 above shows the average age of SACCOs steadily declining between 2009 and 2012 and stablelising in 2013 perhaps explained by the fact that more and more SACCOs are being formed in the recent past.

Figure 5: Trend of Inflation rate Rates in Kenya



Source: (Author, 2014)

As shown in figure 5 above, there has been a high volatility of inflation over the period covered in the study.

4.3 Regression Results

The regression model was significant with a p-value of 0.000 and R2 of 50.9% with the dependent variable Constant, Inflation rates, Years since inception, Interest rates paid on savings, SACCO type(0- informal, 1 Formal), Members of the SACCO in numbers all included in the model as shown in the table below. The use of stepwise regression to remove non significant variable couldn't have changed much as the R_2 could have been below 50.6%. The R2 of 50.6% showed that the variability in savings is contributed by the variability in the factors in the model (Inflation rates, Years since inception, Interest

rates paid on savings, SACCO type (0- informal, 1 Formal), Members of the SACCO in numbers). 49.4% of the variability is due to factors not considered in the savings model.

Table 2: Model summary results

Model Summary									
					Change Statistics				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change
1	.712[a]	.506	.494	1.14785E7	.506	41.872	5	204	.000
a. Predictors: (Constant), Inflation rates, Years since inception, Dividend rates paid on savings, SACCO type(0- informal, 1 Formal), Members of the SACCO in numbers									

The above was also confirmed by the Analysis of variance ANOVA table where the regression was significant with the p-value of 0.000 as shown below.

Table 3: Analysis of Variance of the regression model

ANOVA[b]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.758E16	5	5.517E15	41.872	.000[a]
	Residual	2.688E16	204	1.318E14		
	Total	5.446E16	209			
a. Predictors: (Constant), Inflation rates, Years since inception, Dividend rates paid on savings, SACCO type(0- informal, 1 Formal), Members of the SACCO in numbers						
b. Dependent Variable: Savings in Kshs						

4.4 The Regression Model

The model estimated that **$Y = -5445237.95+398651.03X_1+18383.373X_2+5333317.354X_3+272565.431X_4-204364.675X_5$**
The intercept was negative standing at Kshs 5,445,237.95. It indicated that holding all the other factors constant (Inflation rates, Years since inception, Dividend rates paid on savings, SACCO type (0- informal, 1 Formal), Members of the SACCO in numbers), the savings would be –Kshs. 5,445,237.95. This should be as a result of other factors that were not considered in the savings model.

With X_1 being the dividend rate paid on saving showing a positive relation with the saving and indicating that units change in dividend rate would change the savings by Kshs.398, 651.03. The interest rates according to the data doest significantly affect the savings model as the p-value was 0.288.

X_2 being the numbers of members of the SACCO also having a positive relation with the savings and indicating that a unit increase in membership of the SACCO would increase savings with Kshs.18, 383.373 and this is highly significant in the savings model with the p-value of (0.000).

X3 was the SACCO type and also a positive relation with the savings. It indicated that moving from informal to formal SACCO would increase the saving by Kshs.533, 3317.354 and vice versa. It was also significantly affecting the saving model with the p-value of 0.011.

X_4 represented the age of the SACCO and its effect on savings. There was a positive relation between age and the savings as a unit increase in the age in year of the SACCO would increase the savings by Kshs.272, 565.431. The age was equally significant in predicting the model as the indicated by a p-value of 0.017.

X_5 represented the annual inflation rate and there was a negative relation to the saving as increase in inflation reduces the savings. A unit increase in inflation would reduce

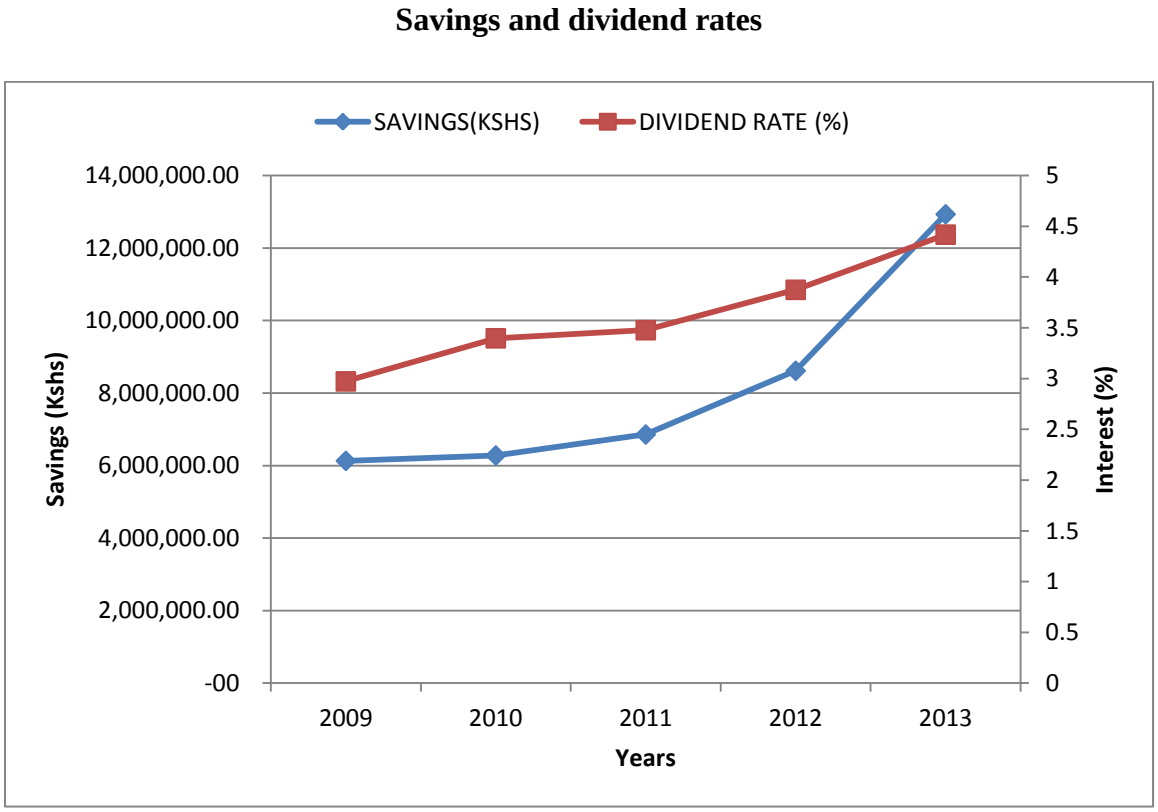
savings by Kshs.204, 354.675. This doesn't significantly affect the model as the p-value stood at 0.366

The independent factors were not in any way collinear with one another as the variance inflation factors were all within the recommended figures (<5). These are as shown in the table below.

Table 4: Coefficients in the savings model

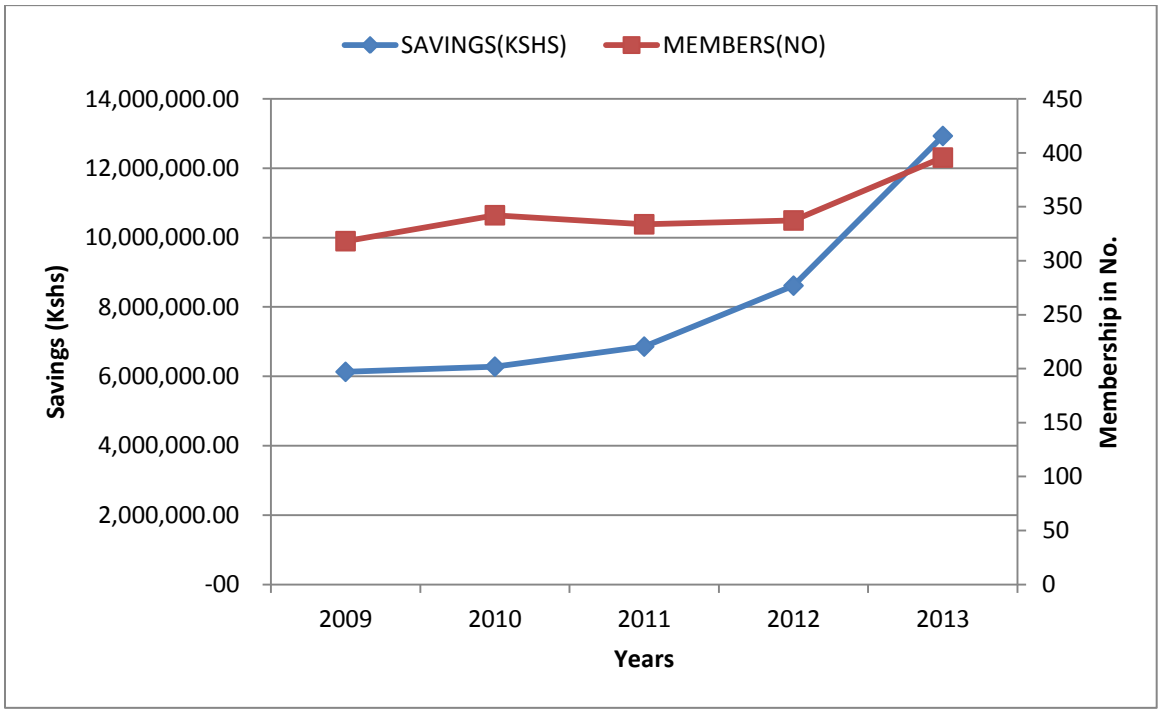
Coefficients[a]										
		Unstandardized Coefficients		Standardized Coefficients			95.0% Confidence Interval for B		Collinearity Statistics	
Model		B	Std. Error	Beta	t	Sig.	Lower Bound	Upper Bound	Tolerance	VIF
1	(Constant)	-5445237.950	3196081.657		-1.704	.090	-1.175E7	856351.253		
	Dividend rates paid on savings	398651.030	373939.274	.054	1.066	.288	-338630.413	1135932.472	.932	1.073
	Membersof the SACCO in numbers	18383.373	1839.276	.599	9.995	.000	14756.945	22009.800	.674	1.485
	SACCO type(0-informal, 1 Formal)	5333317.354	2076994.684	.137	2.568	.011	1238188.168	9428446.541	.850	1.176
	Years since inception (age)	272565.431	113514.418	.155	2.401	.017	48753.494	496377.369	.581	1.722
	Inflation rates	-204364.675	225412.216	-.045	-.907	.366	-648801.124	240071.775	.991	1.009
a. Dependent Variable: Savings in Kshs										

Figure 6: Trend of savings over interest rate



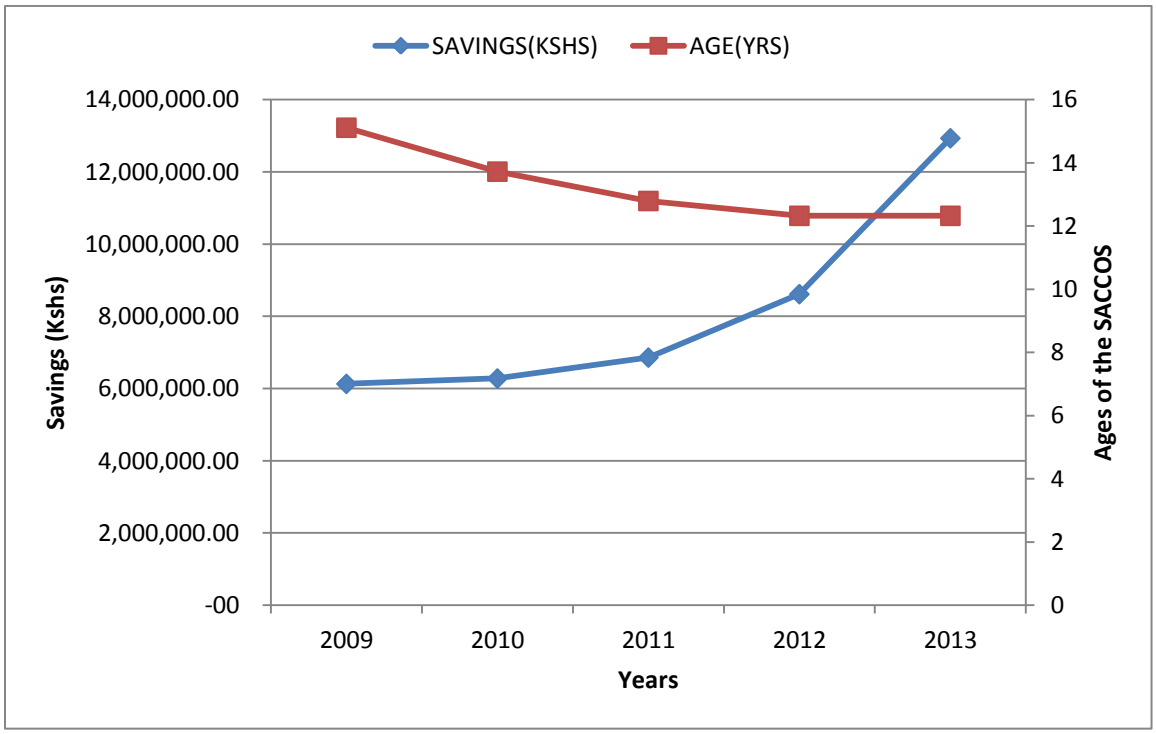
Savings seems to be exponentially increasing across the years. The dividend rates have also been increasing but in a linear way otherwise there is a positive relation between the savings and dividend rates.

Figure 7: Trend of savings over membership in numbers



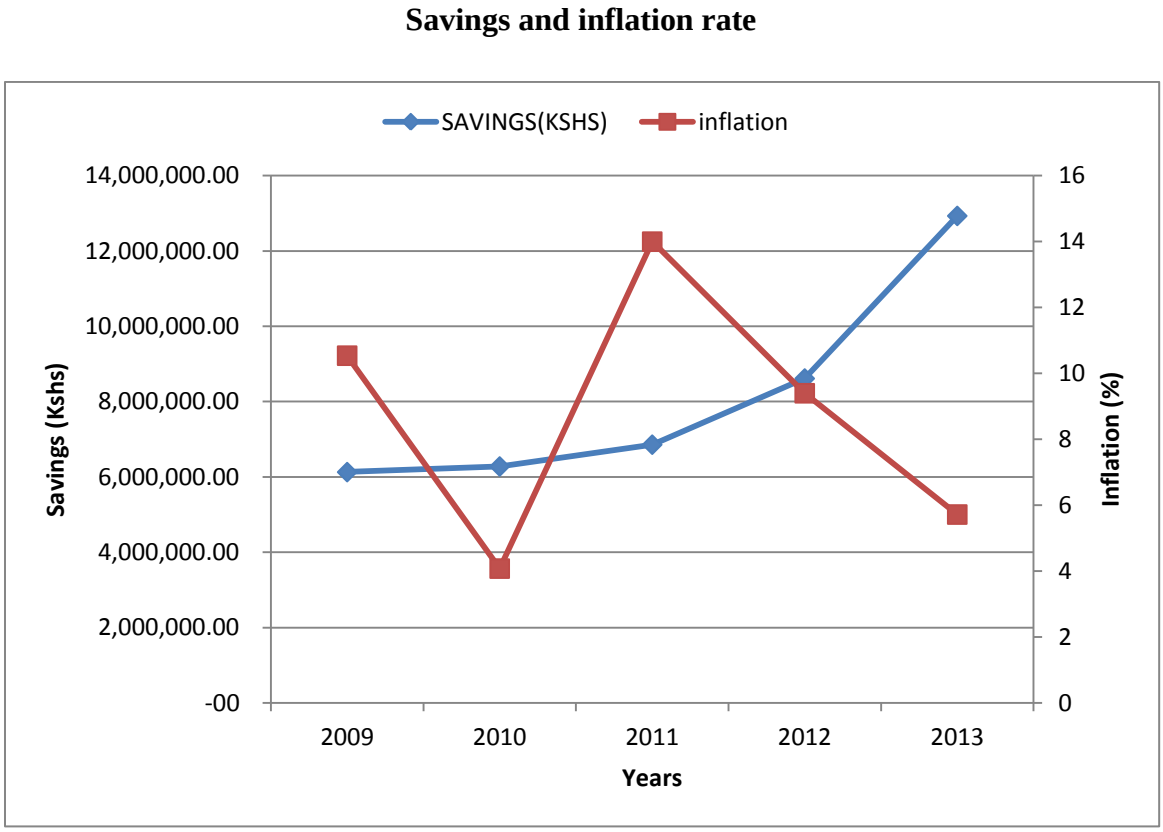
The memberships of the SACCO have increased over the year but the increase is not at an increasing rate as in some year it has come down. This is unlike the savings that is increasing at an increasing rate.

Figure 8: Trend of Savings over ages of SACCOs



It is worth noting that as regards membership in SACCOs, it is difficult to relate the trend of the savings and the type membership of the SACCOs from this trend graph as the year picked averages of the two components. As years progresses the number of new entrants in the SACCO business increases hence lowering the average years. Many SACCOs were also registered this year a government directive for transports sector hence the trend in the ages of the SACCOs can be well understood. The saving still is on the increasing rate. These two should not be related by the graph

Figure 9: Trend of Savings over inflation rates



In figure 9 above, Inflation trend show a lot of volatility as it is not stable over the years. The trend graph has hidden relation that can only be seen through trend line for the inflation. Averagely the inflation has increased over the years and relates negatively with the savings. When inflation decreases that's the time savings increases more

4.5 Discussion of Findings

The study shows that there has been a very high volatility in inflation rates since during the period of study with inflation rates hitting as low as 4.08% and as high as 14% while Savings steadily increased from kshs 6,131,650.43 in 2009 to all time high of kshs 12,932,846.30 in 2013 registering a growth rate of 53 % over the five year period. During the study period, the country was still recovering from the effects of post election

violence and was very vulnerable to any changes on the drivers of inflation like changes in oil prices and weather changes. Interest rate SACCOS pay to members as dividends steadily increased over the years from 2.97% in 2009 to 4.42% in 2013. More SACCOs have been formed in the recent past explaining the big range in the age of SACCOS with the youngest SACCO during the period of study being 2 years while the oldest being 40 years. On average, the years of SACCOs have declined steadily from 15 years in 2009 to 12 years in 2013. The decline can be explained by the increasing number of SACCOs being formed perhaps in response to the government initiative to encourage cooperatives as an avenue to empower targeted sectors of the economy that have not been tapped for a long time in terms of savings mobilization, investment growth and employment creation as it is stipulated in the vision 2030. The targeted sectors that have steered the growth of SACCOs include the informal boda boda operators, small scale traders and artisans and matatu industry. More members have joined existing SACCOs and formed new ones in the recent past than the number of people exiting the SACCOs and this explains the steady increase in the number of members from 2009 where there was an average of 318 to 395 in 2013 during the period of study.

The independent factors were not in any way collinear with one another as the variance inflation factors were all within the recommended figures (<5), hence enabling the running of an OLS regression analysis on the data. The regression results showed that inflation did not have a significant influence on savings of members of SACCOS. The results found a negative relationship in which increases in inflation and reduction in savings are recorded although the rate of increase or decrease is not significant. This is consistent with Branson and Klevorick (1969) in terms of unidirectional nature of the relationship. This result is however inconsistent with Katona's (1975) finding that the public has a strong distaste for inflation and that Inflation is viewed as an undesirable phenomenon, and its presence is associated with increased pessimism about economic conditions, which may lead to increased saving for precautionary reasons.

However, dividend rate paid on saving showed a positive relation with the saving and indicating that units change in dividend rate would change the savings although dividend rates according to the results does not significantly affect the savings model.

Numbers of members of the SACCO also having a positive relation with the savings and indicating a directional relationship in which increases in membership in the SACCOs was accompanied by increases in savings. WOCCU (2010) registered the same results in which savings in SACCOs increased with increases in membership.

SACCO type also a positive relation with the savings as it indicated that moving from informal to formal SACCO would increase the saving and this significantly affected the savings of members. This is consistent with WOCCU (2010) that found a directional relationship between formal SACCOs and savings level.

There was a positive relation between age and the savings as increases in the age of the SACCO was accompanied by increase the savings of members. This was equally significant in predicting the model and is consistent with WOCCU (2010) findings that showed that older SACCOS had higher savings than younger SACCOS.

CHAPTER 5; SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents the summary of findings, conclusions made from the study, limitations of the study, recommendations for policy and practice, and areas for further research.

5.2 Summary

The descriptive results showed that there has been a very high volatility in inflation rates during the period of study with as low as 4.08% in 2010 and a high of 14 percent in 2011. Savings during the period however increased steadily and in effect doubling in 2013 (kshs 12,932,846.30) from 2009 (Kshs 6,131,650.43). The age of the SACOOs decreased from 15% in 2009 to 13% 2010 before settling to 12% in 2011, 2012 and 2013. The Number of members who joined and left SACCOs had a steady net increase from 318 in 2009 to 395 in 2013 signifying stability in members joining and leaving the SACCOs in Kisumu County. The same trend was registered with the rate of interest SACCOs applied on members' savings and paid as dividends where the rate was 2.9% in 2009 and 4.4% in 2013.

The regression results showed that inflation had a negative relationship with but insignificant influence on savings ($p>0.05$). Dividend rate paid on saving showed a positive relation with the saving but doesn't significantly affect the savings as the p-value was also greater than 0.05. Number of members of the SACCO also had positive relationship with the savings and significantly affects savings since p-value is less than 0.05. SACCO type had a positive relation with the savings and significantly affects savings since p value is less than 0.05. There was a positive relationship between age and the savings which is equally significant since p value is less than 0.05. SACCO type also

had a positive and significant relation with the savings. It indicated that moving from informal to formal SACCO would increase the saving by and vice versa. It was also significantly affecting the saving model with the p-value less than 0.055.

5.3 Conclusion

The study concludes that the relationship between inflation rate and savings of members in SACCO societies in Kenya is un directional. The study also concludes that inflation rate does not have any significant influence on the savings of members of cooperative societies since it failed the significance tests. Therefore, the fluctuations in the inflation rates over the recent past have not had a major impact on the levels of savings of members of cooperative society members. This same study concludes that dividend paid by SACCOs is not a determinant of savings. The study also concludes that SACCO type significantly influences the levels of savings and indicated that moving from informal to formal SACCO would increase the saving and vice versa. The study finally noted that number of members in SACCOS, type of SACCO in terms of source of membership and age of SACCOs are major determinants of savings in SACCO's in Kenya.

5.4 Limitations of the Study

One major limitation of the study was the availability of monthly data as this was the initial plan for the study to use monthly data to perform the analysis. Since this was not possible, the researcher reverted to the use of annual data as this was readily available. The use of annual data meant that the number of observations was less than had been initially planned.

5.5 Recommendations for Policy and Practice

The study recommends that in efforts to encourage savings and spur growth in Kenya, the government through the ministry of industrialization and enterprise development should focus on encouraging more people form new or join existing cooperative societies since it

has been established that the number of members is very key to accumulating savings through cooperatives. Secondly, the government and other institutions concerned with regulating cooperative societies like SASRA should put in place measures that safeguard growth and development of SACCOs through good governance so that established SACCOs can be able to stand the test of time by being in operations for a long period since it has been shown by this study that SACCOs that have been in operation for a long time have higher savings than younger SACCOs. This way, the country will be in a position to accumulate savings that can be an alternative for cheap loans for many people that cannot afford the high interest loans from the mainstream banks. Lastly the study recommends that stakeholders in cooperative industry and regulators should encourage SACCO formation among the informal sectors of the economy like boda boda, peasant farmers, and small scale traders like mitumba traders since the study shows that they are currently dominated by formal sectors in terms of savings mobilization levels.

5.6 Areas for Further Research

Studies need to explore this relationship further by using monthly data to examine the relationship between savings and inflation rates. This was a major limitation of the present study as the time did not allow the collection of monthly data and therefore use of such may enhance the reliability of results. Further, studies should expand the list of control variables in order to gather more determinants of savings rates in Kenya as this may help inform policy makers on what factors they need to control to keep savings growing .There is also need to use a combination of both primary and secondary data in order to gather qualitatively the issues that may affect the levels of savings in cooperative societies in Kenya.

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APPENDIX A

SCHEDULE OF SACCOS who are members of KUSCCO as at 31st December 2013 in KISUMU County

SN	NAME OF SACCO	NATURE OF BUSINESS/PROFESSION	LOCATION
1	Pap pastors	Pastors	Pap onditi
2	Nyakach multipurpose	Traders	Nyakach
3	Nyabondo high school	Staff of nyabondo high school	Nyabondo
4	Labda sacco ltd	Lake basin	Mamboleo
5	Agro chem sacco	Agro chemicals	Muhoroni
6	Ahoki sacco	Aga khan hospital	Sifa house
7	Chemelil sacco	Chemeli sugar company employees	Chemelil
8	Tunza sacco	Care kenya employees	Milimani estate
9	Umoja fish mongers sacco	Fish traders	Kisumu bus stop
10	United millers sacco	United millers employees	Obote road
11	Victoria boda boda sacco	Boda boda traders	Manyatta estate
12	Kiseyo sacco	Traders	Kombewa market
13	Ogra sacco	Ogra foundation employees	Milimani estate
14	Rock sacco	Bedrock holdings employees	Milimani estate
15	Mambo line sacco	Matatu operators	Mamboleo market
16	Child development sacco	Child developmement organisation	Shauri moyo primary
17	Dunga fishermen sacco	Fish traders	Dunga
18	Equabo sacco	Equator bottlers employees	Next to kisumu air

			tport
19	Fanaco sacco	Fanana investments	Naselica hotel
20	Fei sacco	Farm engineering industries employees	Mamboleo junction
21	Habi	Hiya bisan	Off bondo road
22	Joncum sacco	Johncum ltd employees	Oginga odinga street
23	Jubille jumbo sacco	jubille jumbo employees	Obote road
24	Kencent sacco	Nyanza club members and employees	Nyanza club kisumu
25	Kiato sacco	Kisumu taxi operators	Kisumu airport
26	Kibos sacco	Kibos sugar company employees	Kibos market
27	Kibuye juakali	Kibuye traders	Kibuye market
28	Kimute sacco	Kisumu municipal	Next to winam courts
29	Kipinte sacco	National printing press	Oginga odinga street
30	Kipwo sacco	Kisumu polytechnic	Kisumu polytechnic
31	Kisumu center juakali	Jua kali artisans	Kisumu juakali
32	Kite sacco	Kisumu teachers tsc	Wedco
33	Kiwama sacco	Kisumu waste managemnt	Kisumu
34	Kiwasco sacco	Kiwasco employees	Kisumu
35	K-met sacco	K met medical institution e	K met plaza tom mboya
36	Kondele traders sacco	Traders	Kondele
37	Koru sacco	Homalime	Homalime factory
38	Kisumu nyando rural sacco	Sugar cane farmers	Chemelil
39	Maseno university	Maseno university	Maseno university

	sacco		plaza
40	Mek sacco	Municipal council	Arena estate
41	Milimani hospital sacco	Milimani hospital employees	Milimani estate
42	Mutco sacco	Muhoroni town council	Muhoroni
43	Nyando sacco	Muhoroni sugar co	Muhoroni
44	Otota	Otonglo traders	Otonglo market
45	Portable sacco	Spectre international	Otonglo market
46	Shasosa	Sojpa employees	Sabuni road
47	Sunep	Sunset hotel employees	Milimani, sunset hotel

APPENDIX B

DATA CAPTURE FORM FOR SACCOS

To

The Manager

Kenya Union of Savings and credit cooperatives (KUSCCO)

Kisumu Region Branch

RE: Data relating to SACCOs in kisumu county

I am a student at the University of Nairobi undertaking a Masters degree course in Business administration. I wish to kindly request you to participate in this research by responding to the attached data capture form. I will collect the form once you are through with it.

		Year 2009						
SN	Name of SACCO	Savings in kshs	Interest rate applied on savings	Number of members	Source of membership	Type of SACCO	Date of formation	Age of SACCO
1								
2								
3								
4								

Thank you for providing the data.

Note. The data capture form was continuous in excel sheet for all the years from 2009 to 2013 and for number of SACCOs from number 1 to 47. However, it could not fit into this word page due to the strict margin and font guidelines.

APPENDIX C

DATA CAPTURE FORM FOR INFLATION RATES

To

The Manager

Kenya National Bureau of Statistics/Central bank of kenya

Kisumu/Western Region Branch

RE: Data relating to yearly inflation rates in Kenya

I am a student at the University of Nairobi undertaking a Masters degree course in Business administration. I wish to kindly request you to participate in this research by responding to the attached data capture form. I will collect the form once you are through with it. Kindly provide the yearly average inflation rates in percentage

YEAR	**AVERAGE YEARLY INFLATION RATE (%)**
2009	
2010	
2011	
2012	
2013	

Thank you for providing the data

APPENDIX D

SUMMARISED DATA FOR SACCOS AND INFLATION RATES

	Savings(kshs)	Dividend rate (%)	Members(NO)	Type of Sacco	Age(Yrs)	Inflation Rate
2009	6,131,650.43	2.972857143	318.2	1.114286	15.11429	10.54
2010	6,281,047.93	3.397435897	342.225	1.225	13.725	4.08
2011	6,859,572.64	3.477272727	333.8409091	1.227273	12.79545	14
2012	8,616,105.33	3.875	337.3695652	1.26087	12.32609	9.4
2013	12,932,846.30	4.418478261	395.6521739	1.26087	12.32609	5.72