

**THE EFFECT OF COST OF CREDIT ON THE FINANCIAL
PERFORMANCE OF COMMERCIAL DAIRY SMALL AND MEDIUM
ENTERPRISES IN KIAMBU COUNTY**

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DECLARATION

I hereby declare that this project is my own work and effort and that it has not been submitted anywhere for any award.

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This research project has been submitted for examination with my approval as the candidate's University Supervisor.

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Secondly I would also like to thank my family and friends who helped me a lot in finalizing this project within the limited time frame.

DEDICATION

This work is dedicated to Mark Rostal (COP) USAID-FIRM, whose passion and constant drive for policy change in Kenya against the persistent problem of usurious interest rates offered to hard-working poor and the financially excluded in Kenya inspired the topic of this research study.

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ABBREVIATIONS

APR	Average Portfolio at Risk
BDS	Business Development Services
CBA	Commercial Bank of Africa
CBK	Central Bank of Kenya
CBR	Central Bank Rate
CEO	Chief Executive Officer
CRM	Credit Relationship Management
DTM	Deposit Taking Microfinance
EU	European Union
FIRM	Financial Inclusion for Rural Microenterprises
IFC	International Finance Corporation
KARF	Kenya Access to Rural Finance
KBA	Kenya Bankers Association
KES	Kenya Shillings
MFI	Microfinance Institution
MPC	Monetary Policy Committee
M-Shwari	Mobile Savings Platform
MSMEs	Micro, Small, Medium enterprises
SMS	Short Messaging Service
T BILL	Treasury Bills
UNDP	United Nations Development Program
US	United States
USAID	United States International Agency for Development

ABSTRACT

Despite the liberalization of the financial sector, high interest rate spreads is still an issue of concern in Kenya. The financial sector plays a dominant role particularly with respect to mobilization of savings and provision of credit. An analysis of bank interest rate spreads is therefore central to the understanding of the financial intermediation process and the macroeconomic environment in which banks operate. This study is motivated by the fact that although Kenya's financial sector was liberalized in the early 1990s to allow for market determination of interest rates, concerns about high interest rate spreads have persisted and attracted a lot of debate in both public and policy forums. The aim of this study is to establish the effect of the cost of credit on the financial performance of commercial dairy SMEs in Kiambu County majority of which are beneficiaries of business development services initiatives in the region under various USAID funded projects.

Quantitative studies provided this study with data that was expressed in numbers. Because the data collected in this study was mainly in a numeric form, statistical tests were applied in making statements about the data. These included descriptive statistics like the mean, median, and standard deviation, but also included inferential statistics like t-tests, ANOVAs, or multiple regression correlations (MRC). Statistical analysis helped this study to derive important facts from research data, including preference trends, differences between groups, and demographics. Semi structured questionnaires were the main instruments in the study. Closed questions, with open ended ones and five part Likert Scales were applied to measure specific indicators that were to be investigated. Specific nature of data collected included; financial performance measures of commercial dairy small and medium scale enterprises as measured by the return on assets, loan interests payable per year for the various SMEs, age of the various SMEs surveyed, the sizes of SMEs, their net incomes and capital injected in the firms inform of debt.

Results show that the cost of credit has direct influence on the financial performance of commercial dairy SME's in the county of Kiambu. There is a positive relationship between the interest payable in the year by SMEs as a result of loans borrowed by SMEs over time, loan outstanding from financial institutions, the age of commercial dairy SMEs, their sizes and the values of loans borrowed from financial institutions by commercial dairy SMEs to the financial performance of these entities , further confirming the positive relationship observed under the exploratory analysis —that is, the higher the cost of credit the larger the impact on financial performance of the SMEs. There is need to explore policy options meant to enhance competition in the industry and measures to break market dominance will be one such option. Efforts to promote pricing transparency for loans offered by financial services providers with the hope of stimulating competition in the sector will go a long way in educating the masses on fair financial product pricing as offered in the market.

CHAPTER ONE

INTRODUCTION

1. Background to the Study

Despite the liberalization of the financial sector, Kenya has consistently maintained a high interest spread. More specifically, the interest rate applicable to the Treasury Bill, which is the government's risk free security, has been unacceptably high and this has the primary effect of diverting financial institutions such as banks into the heavy purchase of Treasury Bills. Evidence shown from the Kenyan financial landscape shows the need to solve the pernicious and persistent technical problem of usurious interest rates offered to the hard-working poor and the financially excluded (Microfinance Transparency). In Kenya, effective interest rates per annum range from 40% (Equity Bank's farm input loan) to approximately 140% (CBA's M-Shwari).

High interest rates stifle the economic growth and development of nations and individuals alike. In the West, and in particular, the United States, interest rates are at all-time lows and have been for many years (Wall Street Journal, 2014). With this in mind, we constantly ask ourselves the question: in similar economic backdrops (low inflation, stable currency exchange regimes), how can interest rates be next to nothing in one country and yet so high in others? These prices, without question, lock most individuals out of the market. Again, these rates, while harmful to everyone, severely impact the performance of small and medium enterprises. 80% of Kenya's 45 million people are engaged in agriculture production (Agriculture Sector Development Strategy, 2010-2020). The vast majority of these ordinary people cannot access loans to grow their family farms and improve their livelihoods. Since high interest rates significantly limit financial access, it is

imperatively important to note that restricting access breeds insecurity and widens the inequality gap.

1.1.1 Cost of Credit

Financial performance of small and medium scale enterprises are largely determined by the general cost of credit in any given regime. Kimuyu and Omiti (2000) argue that the cost of credit is a major factor that determines the ability of SMEs in accessing credit for expanding their enterprises and this in turn determines the financial performance of these enterprises. The way financial products are priced in any economy can have positive and negative effects on the financial performance of SMEs. For instance, Mwenda and Muuka (2004) found that lending institutions charge different interest rates according to market conditions, degree of risks, and institution's objectives. These include simple interest which is calculated only on the principal amount, or on that portion of the principal amount which remains unpaid, compound interest where borrower is charged interest on previous interest. This has led to increase in the cost of acquiring loans by small scale enterprises.

Cost of credit is influenced by a number of factors in a given economy among them the supply and demand forces (for credit), inflation, the government (e.g. T-Bill rates) and the types of loans (certain sectors are considered risky) (Institute for Economic Affairs, 2000). It is a universally accepted principle that interest rates play a major role in the performance of an economy. Higher interest and therefore high cost of credit result in reduced borrowing and hence reduced spending by both households and businesses. Conversely, lower interest rates normally lead to increased spending. This has a net effect on the performance of enterprises including small and medium enterprises in any given economy (Institute for Economic Affairs, 2000).

1.1.2 Financial Performance

Performance seems to be conceptualized, operationalized and measured in different ways thus making cross-comparison difficult. Financial performance is however a subjective measure of how well a firm can use assets from its primary mode of business and generate revenues (Investopedia). Small and medium business enterprises experience poor financial performance and closed down in the first six months of operation, a closed rate considered to be one of the highest in the world (Capital Markets Authority Report, 2010). This has been attributed to unfavorable credit terms like high interest rate of between 20 to 30 percent charged by most financial institutions and yet these institutions are the main source of finance for small and medium scale enterprises.

According to Sander (2000), SMEs that persist and invest their financial performance have remained poor due to little funds available for expansion, accompanied by high interest rates that increase the cost of doing business since they don't enjoy economies of scale. As such many small and medium scale enterprises have continued to register poor performance due to their inability to expand and take advantage of economies of scale, continuously placing them on a weaker financial position (Okurut and Bategeka, 2006). There are many ways to measure financial performance, but all measures should be taken in aggregation. Line items such as revenue from operations, operating income or cash flow from operations can be used, as well as total unit sales. Furthermore, the analyst or investor may wish to look deeper into financial statements and seek out margin growth rates or any declining debt. Factors influencing business financial performance could be attributed to personal factors such as demographic variable and business factors (Okurut and Bategeka, 2006). These include amount of financing, use of technology, age of business, operating location, business structure and number of full-time employees.

1.1.3 Cost of Credit and Financial Performance of Commercial Dairy SMEs

Cost of credit which influences the availability of finance determines the financial performance of an enterprise in a number of ways. For instance the ability to access credit by a small scale enterprise will determine its choices for technology, access to markets, and access to essential resources. These in turn greatly influence the financial performance of small and medium enterprises (Wole, 2009). Wole (2009) further states that securing capital for small scale business start-up or a business operation is one of the major obstacles every entrepreneur faces particularly those in the SMEs sector. Within the SMEs sectors lack of access to credit is one of the major factors accountable for hindering the emergence and growth of their businesses.

Banerjee and Duflo (2004) studied detailed loan information on 253 small and medium –size borrowers from a bank in India both before and after they became newly eligible for the program. Specifically the size definition of the program was changed in 1998 which enabled a new group of small and medium scale firms to obtain loans at subsidized interest rates. Naturally these firms began to borrow under this favored program, but instead of simply substituting subsidized credit for more costly finance, they expanded their sales proportionately to the additional loan sources which suggest that these firms must have previously been credit constrained. According to the survey results of a baseline study jointly carried out by the Central Bureau of Statistics (CBS), International Center for Economic Growth (ICEG) and the K-Rep Holdings Ltd (CBS/ICEG/K-Rep, 1999), the two key challenges facing SMEs include poor access to markets and limited access to financial services or the cost of credit which acts as a major constraint to the financial performance of these enterprises. Lack of tangible security, the procedural bureaucracies of credit borrowing were some of the facts highlighted that constrain small-scale entrepreneurs from accessing credit from formal

credit institutions. The impact of these challenges has led to majority of SMEs operators confining themselves to narrow markets where profit margins are low due to intense competition. Consequently, most of the SMEs are stagnating, retrogressing to micro status or closing after few years of operation (Capital markets Authority Report, 2010.) Very few manage to graduate to medium and large-scale enterprises. The ability of SMEs to grow depends highly on their potential to invest in restructuring and innovation. All these investments require capital and therefore access to affordable finance.

Against this background, the consistently repeated conception of SMEs about their problems regarding access to finance is a priority area of concern, which if not properly addressed, can endanger the survival and growth of the SMEs sector. The Investment Climate Survey conducted by the International Bank for Reconstruction and Development and the World Bank (IBRD/World Bank, 2008) showed that one of the major impediments of nurturing firms is lack of access to financial services which would expand economic growth and employment generation as well as reducing poverty in many developing countries. Lack of access to affordable credit has led to poor maintenance or replacement of machinery, inability to purchase required materials and services, or to expand (Levitsky and Oyen, 1999).

According to Evans and Carter (2000) and Whincop (2001), large firms benefit from established capital markets where small firms cannot raise funds. Owing to lack of well-developed finance information systems, the financial sector is the main source for SMEs' external funds. SMEs therefore, cannot raise funds from other alternative sources. Lack of credit for SMEs' development is a cardinal problem to SME development in developing countries. Due to the problems associated

with accessing alternative credit facilities, a large proportion of Kenyan SMEs rely more on self-financing in terms of retained earnings. SMEs in Kenya have difficulties in growth due to lack of finance. They hardly grow beyond start-up stage; others go out of business at a very early stage (Brownwyn, 1995). The study undertaken by Hallberg (1998) reveals that access to credit is an important ingredient to the development of SMEs. They have few alternatives of accessing finance than relying on their retained earnings to finance their investment. The implication therefore is that SMEs do not have adequate credit to meet their needs at different levels of growth as a result of the prohibitive cost of credit, thereby affecting their levels of financial performance. Therefore, finance gaps exist for small and medium scale enterprises and especially among commercial small holder enterprises wishing to expand but are constrained by the cost of credit in the financial markets.

1.1.4 Commercial Dairy SMEs in Kiambu County

This study will be limited to commercial dairy small and medium enterprises in Kiambu County. Kiambu is one of the high milk producing and processing areas in Kenya according to a dairy value chain study commissioned by the United States Agency for International Development (USAID) project; Kenya Agricultural Rural Finance (KARF) in 2009. The study further indicated that Kiambu County has one of the largest milk sheds in Kenya. Several donor funded projects have provided incentives along the value chain such as Business Development Services (BDS), Capacity building, access to finance and input resourcing. Using the dairy value chain in Kiambu County will provide a representative sample for the purposes of this research work. By studying financial performances of commercial dairy SMEs, this study will seek to establish the relationship between the costs of credit to their financial performances.

1.2 Research Problem

Access to credit is considered to be an important factor in increasing the financial performance of small and medium scale enterprises in Kenya. It is thought that credit augment income levels, increases employment and thereby alleviates poverty (Sacerdoti, 2005). It is believed that access to credit enables poor people to overcome their liquidity constraints and undertake some investments. However prohibitive cost of credit limits access to credit by individuals and firms alike, to either start or expand small and medium scale enterprises. Most SMEs tend to rely on personal resources of their owners, and or loans from friends and relatives to fund their enterprises. The expectation has been that; after initial takeoff of the small and medium scale enterprises, business should be able to raise funds from the formal sector especially MFIs or commercial banks for expansion.

Financial institutions charge substantial interest rates (effective interest rates per annum range from 40% (Equity Bank's farm input loan) to approximately 140% (CBA's M-Shwari), and hence have not resolved the affordability issue. The level of interest rates charged by commercial banks and MFIs is an obstacle to credit accessibility (Microfinance Transparency, 2014). Banks continue to remain highly liquid and reluctant to expand credit other than to most credit worthy borrowers which in most cases excludes the SMEs.

Financial institutions are particularly nervous of smaller and medium scale businesses due to a perception that they represent a greater credit risk. Kariuki's (1995) study of bank credit costs in Kenya illustrates this point further. A survey of 89 small and medium-scale firms in manufacturing and service industries, combined with secondary information from commercial

banks, found that from 1985 to 1990 the average real volume of credit for the sample firms fell, except for the year 1986 which showed a marginal increase of 1.5 per cent. Small scale borrowers were found to be faced with higher nominal interest rates at higher inflation rates in the latter half of the 1980s. Moreover, the explicit transactions costs of borrowing were found to be high in relation to interest costs.

A number of studies have been done in this area among these include; Rukwaro (2000) who studied the influence of credit rationing by MFIs on the operation of SMEs, Mokogi (2003) studied the economic implication of lending of micro-finance institutions on micro and small enterprises. Mutugi (2006) studied the responses of micro finance institutions in Kenya to the turbulent business environment. Muchiti (2009) studied risk management strategies adapted by commercial banks in lending SMEs. None of the foregone studies have undertaken to determine the relationship between the cost of credit and financial performance of SMEs in Kenya.

In this study therefore the researcher seeks to fill this gap by carrying out a survey to find out how cost of credit as advanced by the financial industry in Kenya impacts on financial performances of commercial dairy small and medium enterprises. To achieve the intended objective the study will seek to answer the following question; does cost of credit influence financial performance of small holder enterprises?

1.3 Research Objective

The objective of this study is to assess the effects of the cost of credit on the financial performance of commercial dairy small and medium enterprises.

1.4 Value of the Study

This study's findings will help stakeholders in the financial services sector and the donor development agencies in formulating appropriate financial products for the sector that will enhance the financial performance of commercial dairy SMEs. Results of this study will assist proprietors of these SMEs to distinguish between attributes of fairly priced financial products so as to improve on their financial management abilities.

The research topic has not been fully academically explored and this study will add to existing literature. The research will provide important insights and information to stakeholders as to whether current interventions on the cost of credit by different stakeholders have borne fruit in improving the financial performance of small and medium scale enterprises by answering the following question: to what extent does pricing of credit affect the financial performance of commercial dairy SMEs?

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter highlights the various theories related to cost of credit, credit access, measures of access to credit and financial performance. This is followed by a review of the existing empirical studies conducted by researchers locally and internationally on the relationship between the cost of credit and financial performance of commercial dairy small and medium scale enterprises. The chapter then closes with a brief summary on the theories and empirical discussions.

2.2 Theoretical Framework

The theoretical framework for this study is the theory of financial intermediation by Schumpeter (1934), default risk theory of credit rationing and the link to economic growth as advanced by Goldsmith (1969).

2.2.1 Theory of Financial Intermediation

Credit is an important aspect of financial intermediation that provides funds to those economic entities that can put them into the most productive use. Theoretical studies have established the relationship that exists between financial intermediation and economic growth. For instance, Schumpeter (1934), Goldsmith (1969), McKinnon (1973) and Shaw (1973), in their studies strongly emphasized the role of financial intermediation in economic performance.

In the same vein, Greenwood and Jovanovich (1990) observed that financial development can lead to rapid growth. In a related study, Bencivenga and Smith (1991) explained that development of banks and efficient financial intermediation contributes to economic growth by channeling savings to high productive activities and reduction of liquidity risks. They therefore concluded that financial intermediation leads to growth. Based on this assertion, this study will examine the extent to which intermediation or effects of the high cost of credit to commercial dairy SMEs do hamper their financial performances.

2.2.2 Imperfect Information Theory

According to Robinson (2001), this theory is based on the assumption that Banks can't differentiate cost effectively between low risk and high risk loan applicants. In addition, it is thought that formal financial institutions are unable to compete successfully with informal lenders because such lenders have access to better information about credit applicants than formal institutions can obtain cost effectively.

Imperfect information theory suggests that it would be difficult for banks to both operate profitably in developing countries credit markets and to attain extensive outreach. On the basis of this model, it would be difficult for economists, bankers, financial analysts, donors and government decision makers to muster much enthusiasm for advocating entrance of commercial banks into micro credit markets.

2.2.3 Default Risk Theory of Credit Rationing

Hogman, (1960) was the first to develop a theory of equilibrium credit rationing based on default risk. According to this theory, higher interest rates raise default risk which in turn leads to

lending losses. Therefore to avoid this unrestricted and rational lenders prefer to set loan interest rates below market clearing levels and then ration credit. This thesis rests on the nature of credit supply under risky and competitive market conditions. Credit rationing is generally defined as a situation where the demand for loans exceeds the supply of loans at the loan interest rate determined by banks. In other words, although there is excess demand for credit at a given interest rate, banks do not respond to it by increasing loan interest rates to the market clearing level where demand becomes equal to supply. Therefore, the excess demand is rationed by non-price criteria (Stiglitz and Weiss, 1981). As banks intermediate between the demanders and the suppliers of funds, they incur costs because deposits and loans are not synchronized.

Banks thus charge prices for intermediation services offered under uncertainty, and set interest rate levels for deposits and loans (Kasekende and Pondo, 2005). The spread between the gross costs of borrowing and the net return on lending define the intermediary costs. The latter includes information costs, transaction costs (administration and default costs) and the operational costs. If borrowers and lenders costs vary unrelated to intermediary costs, then the interest rate spread varies with transaction costs of financial intermediaries. Pure spread (due to transaction uncertainty) is influenced by the degree of bank risk management, market structure in which the bank operates size of the bank transactions and the interest rate variability (Ho and Suander, 1981). The actual spread (which includes imperfections in the market) is influenced by macroeconomic variables, monetary policy and fiscal policy activities and risk factors.

2.3 Determinants of Financial Performance of Small and Medium Scale Enterprises

Financial performance is commonly used as an indicator of a firm's financial health over a given period of time. The financial performance of a firm can be defined or measured in various different ways. Each of these different measures captures a slightly different aspect of financial performance. Some, such as profitability, gauge return; others like sales growth and market share growth gauge the growth of a firm. Some measure profitability (return on investment, return on equity), some liquidity (quick ratio, current ratio), and still others solvency (gearing). Some measures are indicators of commercial success (growth, market share) while others are indicators of financial success (profitability). In this regard it can also be argued that different firms have differing financial goals and therefore one financial performance indicator need not measure the success rate as perceived by the firm itself.

There are several key determinants of financial performance of SMEs and these can be classified as; entrepreneur characteristics, characteristic of SME, management and know-how, products and services, customers and markets, the way of doing business and cooperation, resources and finance, strategy, external environment and finally, the internet. In this study financial performance will be measured by the interest payable in the year/average loan outstanding from a financial institution, age of commercial dairy SME in years, the size of the firm as measured by the log of total assets and the amount of capital injected into the firm in form of debt.

2.3.1 Interest Payable in the Year

Interest rate payable per annum refers to the amount of money a firm owes each year on a loan. This is usually stated as a percentage which reflects the amount of money the lender requires as payment from the borrower for the privilege of borrowing money. In other terms this is also

referred to as cost of finance. Interest payable can be classified into two categories; compounded interest and interest charged on reducing balance. This rate converts all the borrower's financial costs for a loan into a single declining balance interest calculation. It includes the effects of interest rates, whether they are calculated on a flat or declining basis, payment schedules, commissions, fees, discounting, and compensating balances. The effective rate allows a calculation of all financial charges as a percent of the loan actually held by the client during each payment period.

2.3.2 Average Loan Outstanding

Average loan outstanding refers to the unpaid interest-bearing balance of a loan or loan portfolio averaged over a period of time usually monthly or yearly. This is usually a critical factor in a consumer's credit rating as a loan request is dependent on a consumer's or entity's loan outstanding balance with a given financial institution. The average loan outstanding is useful in measuring the level of risk in the portfolio of firm by comparing the balance of all loans that have one or more payments past due to the outstanding portfolio. The portfolio at risk rate is considered the most appropriate measure of delinquency.

2.3.3 Age of a Firm

Age of a firm refers to the period that an entity has been in business since its inception and is different from the size of a firm. Age of a firm is a key indicator of an entity's financial performance as this could be a proxy for other drivers of financial performance. For example, growth of a firm decreases with firm age on a diminishing rate. The age of a firm can also propose a risk argument in that investor's uncertainty gets resolved over time as the firm grows older and leaves an increasingly revealing financial track record. The age of a firm could also

correlate with corporate-governance quality. Newly firms start with few provisions that shield them from market forces such as take overs etc.

2.3.4 The Size of the Firm

Size of a firm can be measured by the number of its employees, total assets or its capital structure. The size of a firm has been said to have a positive correlation to its capital structure.

The size of a firm has been said to have a positive correlation to its capital structure. Size of a firm also affects its leverage. In the presence of non-trivial fixed costs of raising external funds, large firms have cheaper access to outside financing per shilling borrowed compared to smaller firms. Size of a firm may also be a proxy for the profitability of an entity as it is contended that larger firms are more difficult to fail and liquidate. It may also be proxy for the volatility of a firm's assets since small firms are more likely to be growing rapidly than older ones.

2.3.5 Amount of Debt Injected into the Firm

Amount of debt injected in a firm can have a direct effect on its financial performance. For instance a firm that borrows too much could suffer from debt overhang such that it cannot borrow more money for expansion. Small firms or startups rely heavily on owner's equity that declines substantially over time. Lower levels of sales at the initial stages of a firm can also affect the level of debt that a firm can obtain for business expansion. A firm's access to financial capital-both equity and debt- in its early years of development is an essential determinant for its financial performance.

2.4 Empirical Studies

Bolnick and Nelson (1990) conducted a study in Indonesia to evaluate the impact of credit programs on small scale enterprises. They used a sample of 386 firms to carry out the survey. They found that those who participated in programs their production level increased as well as sales. However not all studies have fully supported the fact that increased access to credit has led to increased enterprise performance. Some studies have shown that additional capital is often not required to carry out a successful business and that lack of capital can be compensated through creativity. Kallon (1990) in a study of SMEs sources of capital in Sierra Leone conducted a survey of 103 SMEs to ascertain their sources of capital and the related constraints. He found out that the amount of capital needed to start a business was significantly negative when related to the rate of the enterprises growth.

Okech, Abaga and Kuludu (1995) conducted a study on 16 financial institutions in Kenya to determine the demand and supply of credit to the SMEs sector. The study revealed that the demand and supply for credit had been on the increase since 1991. It also revealed that the demand had only been met by 16 percent of what was demanded by that market. The study also revealed that although financial institutions lend to prime borrowers with collateral security, there was need for these institutions to increase their lending to SMEs.

In his study, Buckley (1997) concluded that there was little evidence to suggest any significant and sustained impact of access to credit on beneficiaries in terms of micro entrepreneurs graduating to higher or more sophisticated operations, increased income flow or level of employment. The main argument was that improved access to credit and markets was not

sufficient unless there was an accompanying change in the undertakings themselves i.e. changes in techniques and technology.

Angelini, Di Salvo and Ferri (1998) used a dataset of 1095 Italian firms and found evidence in favor of bank capture theories. With banks other than cooperative banks, lending rates tended to increase with the duration an enterprise held with a banking institution. Cooperative banks also charged higher interest rates with duration except to members of the cooperatives. Companies working with fewer financial entities bore higher interest rates. Availability of credit was measured from a survey question that asked firms whether they liked more credit at the current market rate. Duration of relationship turned out to be non-significant, but with a dummy variable equal to one for relationships shorter than three years the coefficient was positive and significant. Therefore, firms with short relationships were found to have credit constraints. They also found out companies working with fewer financial entities achieved better credit availability.

Copestake (2001) found that those borrowers who were able to obtain two loans experienced high growth in profits and household income compared to a control sample, but borrowers who never qualified for the second loan were actually worse off. In a separate study of financial constraints to Kenyan manufacturing firms, Isaksson and Wilhborg (2002) conducted a survey of 54 SMEs in the industrial area of Nairobi to assess the source of capital for the SMEs. The study observed that most firms obtain their loans from friends and relatives (67% of those surveyed owned by individuals of Asian origin), with most informal borrowing occurring among informal firms with African owners. However, informal loans do not play a major role in substituting bank loans. Most firms above the small size are able to obtain trade credit (again majority of

these enterprises were found to be owned by Asians), with a higher proportion of formal firms being able to obtain trade credit than the proportion of informal sector firms. Among the informal sector firms however, more are able to obtain trade credit rather than loans. The main constraints to accessing loans were cited as the cost barrier.

The regional program on enterprise development (RPED) study on manufacturing firms in Kenya, found that the textile sector which provides 26 percent of manufacturing employment, is characterized by a high proportion of small sized activities Arguilar and Bigsten (2002). The sector like other SME activities in the country faced constraints associated to lack of access to financial services. Again, the element of affordability associated to the cost of credit was cited as one of the major hurdles to SMEs in the sector. The study also found a direct link between accessibility to credit and the financial performance of small scale enterprises.

From a study carried out in India Banerjee and Duflo (2004) studied financial performances of small and medium –sized firms both before and after they accessed loans. By using a survey of 296 small scale enterprises in the region of Banerjee, the study concluded that these firms began to expand their sales proportionately to the additional loan sources which concluded that these firms must have previously been credit constrained due to the affordability and accessibility of the loans. Likewise, Isaksson (2004) conducted a survey of 291 local small startup enterprises in the Central Province of Kenya. The aim was to assess the main constraints to the growth and financial performances of these enterprises in view of accessibility and affordability of credit as was tailored to these enterprises. The study concluded that the cost of credit was one of the major constraints to enterprise development due to credit allocation process, which locked out firms

with viable projects and the weak legal institutional framework for enforcement of contracts, forcing lenders to either rely on social networks or deny loans to potential borrowers. The information asymmetry existing in these markets also was seen to create a need for institutional and contract arrangements, which ensured contracts enforcement.

Cardone, Casasola and Samartin (2005) used a sample of 386 Spanish firms. They found that the duration an enterprise had a relationship with a financial institution increased the firm's chances of availability and the maturity of credit but had no effect on interest rate or collateral requirements by the bank or financial institution. The number of bank relationships only affects significantly and positively the availability of credit but did not have any bearing on the cost of this credit as advanced to the enterprises. They found out that scope (number of financial products) reduced interest rates and decreased collateral requirements for the enterprises.

By using a survey of 296 small scale enterprises conducted in 2000 in Belgium, De Bodt, Lobez and Statnik (2005) examined the determinants of credit rationing probability. They found a positive relationship between credit availability and the duration an enterprise has with the lending institution. An increase in the number of banks leads to an increase in the probability of credit rationing. However, this effect is stronger or weaker depending on the size of the lender and of the borrower. They also found a direct relationship between the financial performances of these enterprises to the cost at which the firms obtained credit from the lending institutions. Those firms which could access credit at a lower cost registered improved financial performance as opposed to those which did not have access to credit at all.

As part of efforts to bring MFIs on board different credit sharing initiatives, a capacity assessment of all MFIs operating in Kenya during the course of 2012 (FSD, 2012) was performed through a joint USAID-funded project, Financial Inclusion for Rural Microenterprises (FIRM) and Financial Sector Deepening Kenya (FSD). During the mission, FIRM identified the top 14 MFIs that constituted Tiers 1. Number of borrowers reached by MFIs as determined in this assessment, seemed rather small compared to the potential market. This was interpreted as a first indication that MFIs are not completely successful in making credit accessible to the financially excluded. Moreover, many institutions charge interest rates in excess of 30 to 50% per annum. Justifications for doing so range from high risk levels, to high operational costs. It is undeniable that MFIs operations costs are substantially higher. Reasons for the latter are numerous ranging from lack of best practice credit systems and processes and predominance of group lending which are high risk and resource intensive products.

2.5 Summary of Literature Review

From the study it is evident that most small and medium scale enterprises suffer from prohibitive costs in accessing credit products. This has the net effect of hampering financial performance of these enterprises and eventual growth. Since their main source of capital are their retained earnings and informal savings and loan associations these are usually unpredictable, not very secure and have little scope for risk sharing because of their regional or sectorial focus. Literature dealing with the effects of cost of credit on financial performance of commercial dairy small and medium sized enterprises (SMEs) indicates that there is a significant gap in the knowledge of this relationship. Accessing credit is considered to be an important factor in increasing sales, profitability and employment. There is urgent need for financial institutions to

redesign their products and services to SMEs with the aim of tailoring affordable products that will spur economic development.

This study will examine the extent to the effect of the cost of credit on financial performance of commercial dairy small and medium scale enterprises. It is hoped that this research study findings will assist financial service providers and development donor agencies with new insights that can be used to improve on the financial product offering for commercial small and medium scale enterprises and be used as a platform for developing new relationships.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Research Design

Research design refers to how data collection and analysis are structured in order to meet the research objectives through empirical evidence (Chandran, 2004) (Cooper and Schindler, 2006).

In order to determine the effect of the cost of credit to financial performance of commercial dairy SMEs; the study employed opinion based research design method. This method used a mix of both quantitative and qualitative approaches. Qualitative Research is primarily exploratory research that is used to uncover trends in thought and opinions and to dive deeper into the problem. Qualitative data collection methods vary using unstructured or semi-structured techniques. Some common methods include focus groups (group discussions), individual interviews, and participation/observations. The sample size is typically small, and respondents are selected to fulfill a given quota. Qualitative analysis provided this study with details about human behavior, emotion, and personality characteristics to make conclusions.

Quantitative Research is used to quantify the problem by way of generating numerical data or data that can be transformed into useable statistics. It is used to quantify attitudes, opinions, behaviors, and other defined variables – and generalize results from a larger sample population. Quantitative Research uses measurable data to formulate facts and uncover patterns in research. Quantitative data collection methods are much more structured than Qualitative data collection methods. Quantitative data collection methods include various forms of surveys – online surveys, paper surveys, mobile surveys and kiosk surveys, face-to-face interviews, telephone interviews,

longitudinal studies, website interceptors, online polls, and systematic observations (Cooper and Schindler, 1998).

Quantitative studies provided this study with data that was expressed in numbers. Because the data collected in this study was mainly in a numeric form, statistical tests were applied in making statements about the data. These included descriptive statistics like the mean, median, and standard deviation, but also included inferential statistics like t-tests, ANOVAs, or multiple regression correlations (MRC). Statistical analysis helped this study to derive important facts from research data, including preference trends, differences between groups, and demographics.

3.2 Population

The study focused on commercial dairy small and medium scale enterprises in Kiambu County. For purposes of this study, the target population was approximately 5,000 commercial dairy small and medium enterprises in the larger Kiambu County (The Kenya Dairy Board, 2014); most of who have benefited from business development services projects in the region under various USAID funded projects. Kiambu County has a livestock population of 312,710 cattle (The Kenya Dairy Board, 2014).

3.3 Sample Design

According to Perlin (2009), in a dairy value chain study commissioned under the USAID's Kenya Access to Rural Finance (KARF) project, initial dairy value chains were developed in the Githunguri and Eldoret regions. A sampling frame of 100 commercial dairy small and medium scale enterprises in the area was used for purposes of this study. Small and medium scale

enterprises in the sampling frame receive support from various USAID's projects on different interventions ranging from BDS, financial linkages and capacity building. The researcher used homogeneous purposive sampling.

3.4 Data Collection

Semi structured questionnaires were the main instruments in the study. Closed questions, with open ended ones and five part Likert Scales were applied to measure specific indicators that were to be investigated. Specific nature of data collected included; financial performance measures of commercial dairy small and medium scale enterprises as measured by the return on assets, loan interests payable per year for the various SMEs, age of the various SMEs surveyed, the sizes of SMEs, their net incomes and capital injected in the firms inform of debt. The questions were clear in four aspects; simple language, common concepts, manageable tasks and widespread information. Closed questions assisted the researcher to gather reliable in depth data while open ended questions gathered more information based on the respondents understanding of the questions. Interview sheets were distributed to the respondents at their weekly farmer group meetings. A pilot survey was conducted to separate respondents from the Kiambu area to test the validity and reliability of the semi structured questionnaire. The aim was to assist in pointing out weaknesses, if any, in the questionnaires.

3.4.1 Data Validity and Reliability

In order to ensure validity and reliability of this study the following measures were taken into account: content validity (to ensure consistency with the subject topic of the research), criterion validity (concurrent or predictive validity measures of criterion validity were used in the study)

and construct validity (the aim was to test the link between cost of credit to financial performance of commercial dairy small and medium scale enterprises).

3.5 Data Analysis

Data was analyzed using a linear regression analysis. The SMEs profitability was measured using the return on assets method. It is argued that ROA and ROI are the best measures of profitability. Beck and Martinez (2007) presented size of loans among other factors as indicators of banking sector outreach. Although this indicator cannot be precise measurement of the cost of credit and therefore access to credit, they can be a good proxy indicator of measuring accessibility of credit. The study used a linear regression model to establish the relationship between financial performance of commercial dairy SMEs and the cost of credit as provided by financial institutions in the form of loans. The regression equation employed is as shown below:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_nX_n$$

Where Y=commercial dairy SMEs financial performance as measured by return on assets (i.e. net income of enterprise in a given duration/total assets). Net income of the enterprises was measured by the total revenue from milk sales in a given duration less total costs for the same duration (costs included such items as interests on loans if any, taxes, depreciation, costs for feeds, vaccines, labor and imputed costs). Total assets were measured by summing up total liabilities for the enterprises to equity contributed in the firms,

a= regression constant

b_1, b_2, b_3 = regression coefficients

X_1 = is the interest payable in the year/average loan outstanding from a financial institution.

X_2 = age of the commercial dairy SME in years.

X_3 = is the size of the commercial dairy SME as measured by the log of total assets.

X_4 =is the amount of capital injected in the firm in form of debt.

3.5.1 Tests of Significance

Descriptive statistics were done using frequencies and respective proportions and means with corresponding standard deviations or medians and respective inter-quartile ranges after assessing for normality of the particular covariate. Pairwise Pearson Correlation analysis of each predictor covariates verses the outcome was done reporting the correlation coefficient (r) and corresponding p values. Linear regression assumptions were assessed using appropriate graphs and tests. The study also checked for influential or outlier observations.

Univariate analysis was done using linear regression analysis and all covariates were included *apriori* into the multivariable linear regression model assessing the association of interest payable in the year/average loan outstanding from a financial institution, age of SME, size of the firm as measured by the log of total assets and financial performance of the firm as measured by net income of the firm/capital injected in the firm (Debt) to SMEs financial performance as measured by return on assets. Regression coefficients, respective 95% confidence intervals and p values were reported for each of the covariates fitted in the model. Adjusted R squared values were reported to assess the amount of variance accounted for by the covariates and the model as a whole for the multivariable model. The F value and its significance were also be reported for

the multivariable model. Results were presented in the form of tables, box plots as deemed appropriate. Stata version 12.1 (Stata Corp., College Station, Texas, USA) was used for analysis.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter covers data presentation and analysis. The main objective of the study was to investigate the effect of the cost of credit on the financial performance of commercial dairy SME's in Kiambu County, Kenya. In order to simplify discussions, the researcher provided tables and figures that summarize collective reactions and views of the respondents. This chapter also explains the findings in comparison with relevant literature as established by other authors in the same field of study. Content analysis was used as the study explored the use of a questionnaire guide as the main research instrument.

4.2: Response Rate

The targeted sample was 120 respondents from the county of Kiambu. Those who filled and returned the questionnaires were 100 respondents making a response rate of 83.33%. According to Mugenda and Mugenda (1999), a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and over is excellent. This means that the response rate for this study was excellent and therefore enough for data analysis and interpretation.

Table 1: Response Rate

	Frequency	Percentage
Response	100	83.333
Non-response	20	16.67
Total	120	100

The table above shows that only twenty of all the respondents did not fill or return in the questionnaire resulting to 100 of a possible 120 respondents returning the questionnaire. This came to about 83.333 recurring percentage response rate which was an excellent response rate.

4.3 Data Validity

To establish validity, the research instrument was given to experts who were experienced to evaluate the relevance of each item in the instrument in relation to the objectives. The same were rated on the scale of 1 (very relevant) to 4 (not very relevant). Validity was determined by use of content validity index (CVI). CVI was obtained by adding up the items rated 3 and 4 by the experts and dividing this sum by the total number of items in the questionnaire. A CVI of 0.854 was obtained. Oso and Onen (2009), state that a validity coefficient of at least 0.70 is acceptable as a valid research hence the adoption of the research instrument as valid for this study.

The questionnaires used had Likert scale items that were to be responded to. For reliability analysis Cronbach's alpha was calculated by application of SPSS. The value of the alpha coefficient ranges from 0 to 1 and may be used to describe the reliability of factors extracted from dichotomous (that is, questions with two possible answers) and/or multi-point formatted questionnaires or scales (i.e., rating scale: 1 = strongly agree, 5 = strongly disagree). A higher value shows a more reliable generated scale. Cooper and Schindler (2008) indicated 0.7 to be an

acceptable reliability coefficient. Since, the alpha coefficients were all greater than 0.7, a conclusion was drawn that the instruments had an acceptable reliability coefficient and were appropriate for the study.

4.4 Descriptive Statistics

4.4.1 Demographic Information

The study found it important to establish the demographic information in order to determine whether it had effects on taking of loans in SME's in the county of Kiambu, Kenya.

Figure 1: Gender of the respondents

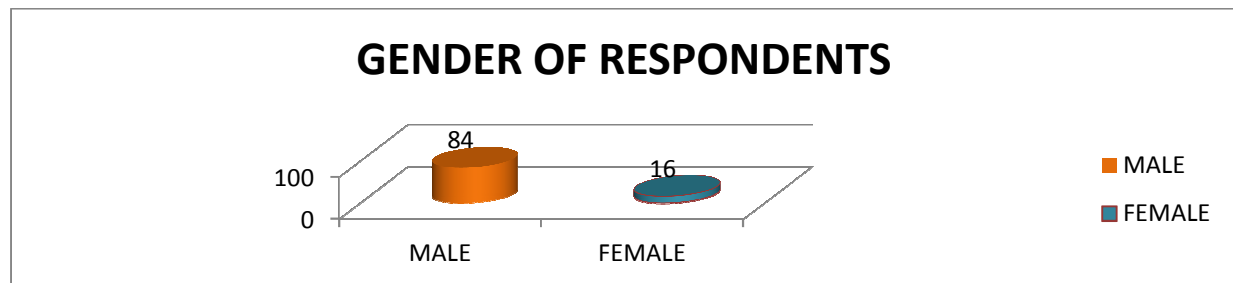


Table 2: Gender of the Respondents

The study further determined the respondents' gender in order to ascertain whether there was gender parity in the positions indicated by the respondents. The findings of the research are shown in the figure below.

Gender	Frequency of response
Male	84
Female	16

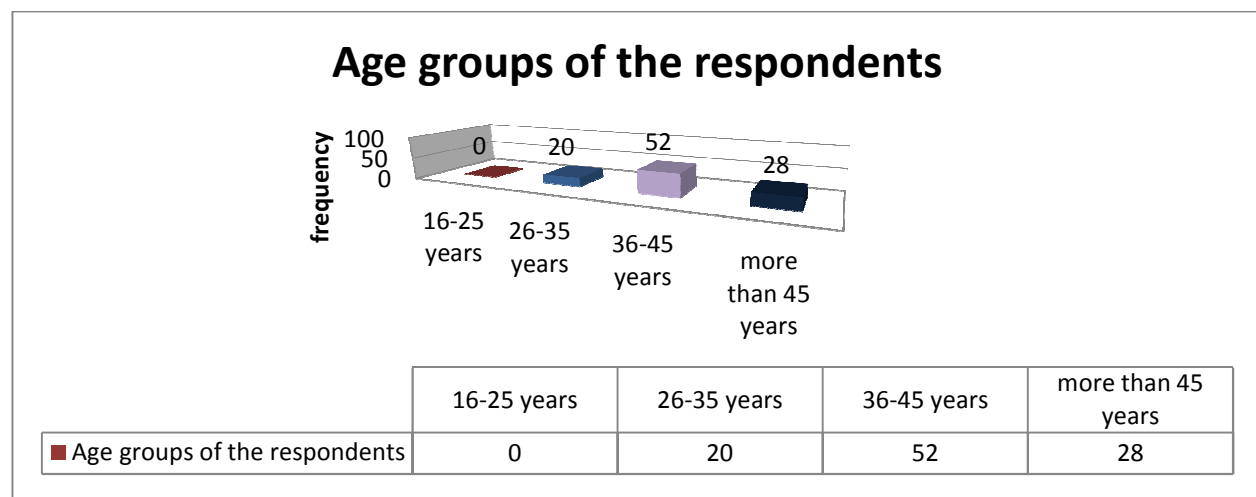
According to the analysis of the study, it was evident that majority of the respondents were male respondents since 84% of all the respondents of the questionnaires returned were male and only 16% of the respondents were female respondents. This came to a frequency of 84 male respondents and 16 female respondents. It can therefore be deduced that males were the most dominant gender in the county of Kiambu, Kenya.

Table 3: Ages of the Respondents

Ages of the respondents

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid 26-35	20	20.0	20.0	20.0
36-45	52	52.0	52.0	72.0
More than 45 years	28	28.0	28.0	100.0
Total	100	100.0	100.0	

Figure 2: Age Group of the Respondents



From the figure above, it is evident that most of the respondents were between the age brackets of thirty six to forty five years old. This came to about 52 of the respondents .It was followed by the age bracket of more than forty five years old which had a frequency of 26 and a percentage

of 32%. It was then followed by ages between twenty six and thirty five years old and this had a frequency of 22 and a percentage of 28% of all the respondents. None of the respondents were in the age group between 16 and 25 years old. The finding therefore implies that the respondents were old enough to provide valuable responses that pertain to the effects of cost of credit on the financial performance of dairy commercial SME's Kiambu County.

4.4.2 Residence of the Respondents

Table 4: The residence of the respondents

Owned house within the farm	92
Owned house outside farm precincts	8
Living in rented quarters	0

Most of the respondents from which the survey was taken owned a farm house within the farms; this came to a frequency of 92 total respondents. This was approximately 92% of all the respondents. The other eight percent of respondents was covered by respondents who owned homes built outside their farm precincts. None of the respondents surveyed lived in rented houses.

Figure 3: Dependence of the Respondents

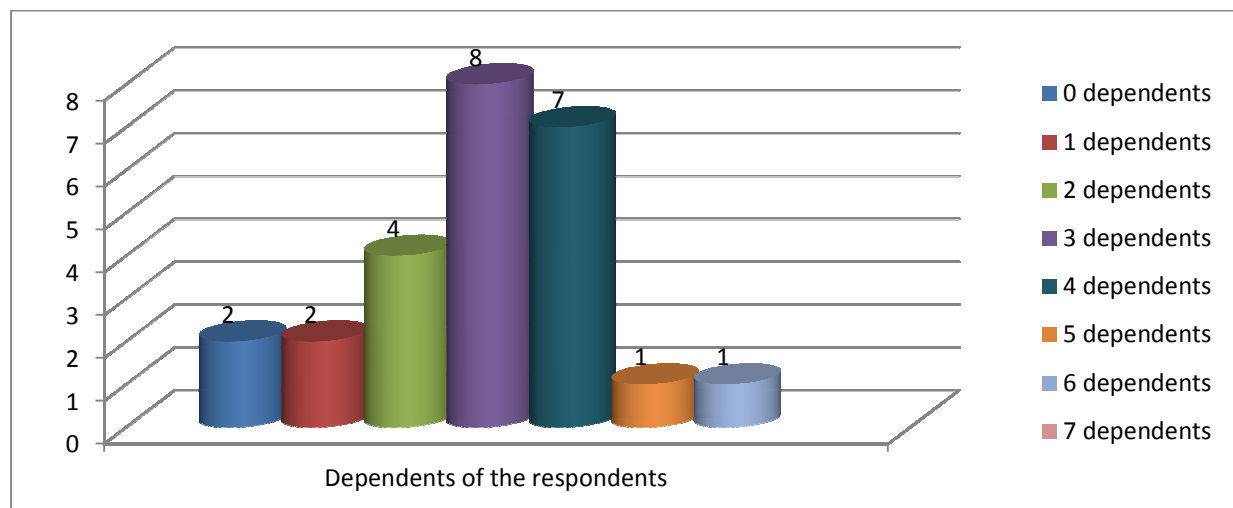


Table 5: Frequencies of the Respondents

Number of dependents	Frequency of the respondents
Zero	2
One	2
Two	4
Three	8
Four	7
Five	1
Six	1
Seven	0

From the table above the average number of dependents per respondent was 3 dependents. This is so because of a frequency of 32 of all the dependents which covered approximately 32% of the respondents. A frequency of 28 of the respondents was covered by those who had four dependents. This covered about 28% of the respondents. This was then followed by respondents who had zero and or one dependents who both had a frequency of 8 and a percentage of 8 of all the respondents. It was obvious that most of the respondents were married with three dependents. This indicated that there was a high propensity for the respondents to engage in commercial dairy activity. This also implied the need to obtain credit loans from financial institutions in order to increase their financial performance.

Table 6: Economic Activity of the Respondents

Economic activity	Frequency
Dairy farming	96
Agriculture	4
Small business/trading	0
Monthly salary	0
Casual work	0
Pension	0
Social benefit	0
Other	0

It is evident from the table above that most of the respondents from Kiambu County depend on dairy farming as a total frequency of 96 of the 100 respondents took part in dairy farming. This covered a percentage of 96% of all the respondents. This was followed by a frequency of 1 of the respondents who practiced agriculture and this was only four percent of the respondents. The rest of the economic activities were not practiced by the respondents. This indicated that most of the residents of Kiambu County mainly depend on dairy farming as their source of livelihood.

It was further noted that an average of 2.17 of all the respondents are with a banking institution and the variation from the mean was 0.853. This showed that there was very little variance of the average of the given respondents. It was therefore evident that most of the respondents in the survey had an account with approximately two banking institutions. On the other hand, most of the respondents had transactions with the bank and could therefore be viable for a loan. It was also noted the mean of the number of Sacco's each respondent had an account with was approximately 1.11 and the variation from the mean was 0.777. This meant that there was very little variation from the mean mark and therefore most of the respondents had an account with

approximately one Sacco. The research further showed that respondents had at least borrowed from a financial institution in the past since the spss data gave a mean of 1.37 and a standard deviation of .485, there was a very little variation from the mean therefore implying that most of the respondents had at least borrowed from a financial institution in the course of their business activities.

The research also observed that most of the respondents indicated that the interest on their loans was on a flat rate and not on a reducing balance. This is shown clearly since the average from the spss data was 2.07 and the variation from the mean was 0.718. It was evident from the research therefore that most of the respondents ended up paying high interest rates that discouraged borrowing of funds from Sacco's and micro finance institutions. It was also evident that almost all the respondents concurred that if interest rates on their loans were cheaper than they currently were now they would borrow more credit from a financial institution. This is shown by the average of 1.00 which represents 'yes' and the 0.00 variation from the mean given by the standard deviation.

The research also indicated in the survey that most respondents believed if interest rates on loans were reduced then the overall financial performance for their businesses would increase markedly. This is evident from the data of the mean of 1.11 and a deviation of 0.314. An average of 1.11 indicates that most of the respondents indicated a 'yes' to the fact that a reduction in the cost of credit would generally increase the financial performance of their entities.

4.5 Correlation Analysis

The research showed that most of the respondents believed financial performance of their enterprises were directly affected by the cost of credit on loans offered by financial institutions. This can be seen by the outcome of the experiment which states an average of 1.76 approximately closer to two than one. ‘2’ represents ‘no’ to the question; financial performance of my business enterprise is not affected by the pricing of credit products. And the variation from the mean mark was 0.429, which means that there was very little from the mean of respondents as can be shown from the table below;

Table 7 : Descriptive variables

Predictor variables	Interest payable	Age of SME	Size of SME	Amount of capital injected
Minimum	9.772	0.307	0.238	9.772
Maximum	1,455	8.449	-0.296	0.783
Mean	1,970	8.711	-0.034	0.768
STDEV	3,372	8.449	-0.296	0.783

Table 8: Correlation Coefficient between the Amount of Debt injected into SME, Size of the Commercial Dairy SME, Age of the Commercial Dairy SME and Interest Payable in the year/Average Loan Outstanding from a Financial Institution.

	Interest Payable	Age of SMEs	Size of SMEs	Amount of Capital	Financial Performance
Interest payable	1				
Age of SME	0.631	1			
Size of SME	0.551	0.451	1		
Amount payable	0.611	0.391	0.413	1	
Financial Performance	0.511	0.524	0.614	0.713	1

*Correlation is significant at the 0.05 level (1-tailed).

The analysis from the table shows that the amount of capital injected in a business entity in the form of debt has the strongest positive (Person correlation coefficient =.713; P value 0.000) on financial performance of dairy commercial SMEs. In addition the Size of commercial dairy SMEs, Age of commercial dairy SMEs and Interest payable have a significant positive coefficient of correlation indicating that they also have an influence on financial performance of commercial dairy SMEs with a Pearson's correlation coefficient of 0.451, 0.631,0.413 respectively.

The correlation matrix implies that the independent variables: amount payable, size of the commercial dairy SMEs, age of commercial dairy SME's and interest payable in the year/average loan outstanding from a financial institution are very crucial determinants on the financial performance of commercial dairy SMEs as shown by their strong and positive relationship with the dependent variable, i.e. financial performance.

4.6 Regression Analysis and Hypothesis Testing

4.6.1 Regression Model Summary

Table 9: Coefficient of Determination (Regression)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Sig. F Change
1	.777 ^a	.785	.776	.43829	.000

Predictors: (Constant), Amount payable, Size of commercial dairy SMEs, Age of commercial dairy SMEs and the Interest payable in the year/average loan outstanding from a financial institution. Looking at the variables collectively, it is evident from the table that 77.6% of variation or change in the financial performance is explained by the variables considered in the model, i.e. Amount payable, Size of commercial dairy SMEs, Age of commercial dairy SMEs and Amount payable in the year/average loan outstanding from a financial institution as indicated by the coefficient of determination (R^2) which is also evidenced by F change $108.505 > p\text{-values} (0.05)$. This implies that these variables are very significant (since the $p\text{-values} < 0.05$) and therefore need to be considered in any effort to boost financial performance of commercial dairy SMEs in Kenya. This study therefore identifies Amount payable, Size of commercial dairy SMEs, Age of commercial dairy SMEs and Interest payable in the year/average loan outstanding from a financial institution as critical determinants in the financial performance of commercial dairy SMEs.

4.6.2 Analysis of Variance

Table 10: Analysis of Variance (ANOVA) Results for Amount Payable, Size of Commercial Dairy SMEs, Age of Commercial Dairy SMEs and Interest Payable in the year/Average Loan Outstanding from a Financial Institution and the Financial Performance of Commercial Dairy SMEs.

	Sum of	df	Mean	F	F-critical	Significance
			Squares		Square	Value
Regression	52.55	4	14.93	18.33	0.00	
Residual	3.34	19	4.22			
Total	55.89	23				

NB: F-critical Value 88.33 (statistically significant if the F-value is less than 88.33: from table of F-values). **Predictors: (Constant),** Amount payable, Size of commercial dairy SMEs, Age of commercial dairy SMEs and Interest payable in the year/average loan outstanding from a financial institution and the financial performance of commercial dairy SMEs.

To test for the relationship that the independent variables have on effective monitoring and evaluation, the study did a linear regression analysis. The study ran the procedure of obtaining the coefficients and the results obtained are contained in the table in the next page.

Table 11: Multiple Regression Analysis of Interest Payable, Age of Commercial Dairy SMEs, Size of Commercial Dairy SMEs and the Amount of Capital Injected in the Firm inform of Debt.

	Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
(Constant)	11.132	0.332		2.311	0.023
Interest payable	0.231	0.65	0.002	1.532	0.081
Age of SMEs	0.321	0.332	0.076	1.256	0.022
Size of SMEs	0.553	0.273	0.063	1.599	0.053
Amount of capital	0.734	0.281	0.025	2.145	0.013

The study model will therefore be:

$$Y_i = 11.132 + 0.231(X_1) + 0.321(X_2) + 0.553(X_3) + 0.734(X_4)$$

According to the regression equation established while taking all factors into account (amount payable, size of the commercial dairy SMEs, age of the commercial dairy SMEs and the interest payable in the year/average loan outstanding from a financial institution) regression constant will be 11.132. The Standardized Beta Coefficients gives a measure of the contribution of each variable to the model. A large value indicates a unique change in this predictor variable has a large effect on the criterion variable.

The t and Sig (p) values give a rough indication of the impact of each predictor variable-a big absolute t value and small p value suggests that a predictor variable will have a large impact on the criterion variable. At 5% level of significance and 95% level of confidence, interest payable in the year had 0.231 level of significance; age of the commercial dairy SMEs had a 0.321 level

of significance, size of the commercial dairy SMEs had a 0.054 level of significance and the amount of capital injected in the firm in form of debt had a 0.734 level of significance.

4.7 Discussion of Research Findings

Results from the analysis show that there is indeed a significant relationship between financial performance of SMEs and the cost of credit as offered by financial service providers. There are indeed other bank-specific factors that play a significant role in the determination of interest rate spreads within the financial sector. All the coefficients for bank specific variables have the expected signs and are highly statistically significant at one percent in all the estimated equations. There is a positive relationship between the interest payable in the year by SMEs as a result of loans borrowed by SMEs over time, loan outstanding from financial institutions, the age of commercial dairy SMEs, their sizes and the values of loans borrowed from financial institutions by commercial dairy SMEs to the financial performance of these entities , further confirming the positive relationship observed under the exploratory analysis —that is, the higher the cost of credit the larger the impact on financial performance of the SMEs. This finding is robust under both fixed and random effects models, yielding the highest t-values. The magnitude of the impact is also significant as indicated by the F statistic value of 18.33.

Therefore, if higher spreads by financial institutions are merely interpreted as an indicator of the level of financial performance of these entities, one can thus conclude that the cost components that constitute financial products pricing for SMEs should and must be reviewed favorable in

order to open up accessibility and affordability of credit to SMEs with the view to helping small business entities grow their portfolios and to a larger extent, creating an enabling environment for achieving the Vision 2013. It has often been argued that there are other factors that may mask the observed spreads of interests by financial institutions such as third party fees levied onto financial products pricing. Furthermore, there is a positive relationship between credit risk associated with non-performing loans ratio and interest rate spreads offered in particular to SMEs. Financial institutions are compelled to shift the risk premium associated with non-performing loans to the borrowers, which may be coupled with squeezing the rates offered to the depositors. However, these arguments stem from the notion that certain sectors of the economy are more risk averse compared to others, thereby justifying higher costs of credit to the sectors. This has not always been true as can be proved from studies done along various agricultural value chains that have proven to be more profitable to lend to at affordable levels of interest.

The results of this analysis are also consistent with those found by other studies such as the Agricultural Sector Development Strategy (2010-2020) which decries the high cost of lending to the agricultural sector and SMEs, proposing instead the establishment of a special fund that will only lend towards this sector. Additionally, there is a positive relationship between the interest payable in a given time frame by the SMEs/average loan outstanding from financial institution to financial performance of commercial dairy SMES. The positive effect could be interpreted as an indication of profit-maximizing behavior whereby financial institutions with higher profitability relative to average assets are also inclined to charge higher borrowing rates relative to the deposit rates.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

In this chapter, a summary of the main study findings is presented. The chapter also covers conclusions and recommendations of the study as well as suggestions for further research. The purpose of this study was to determine the effect of cost of credit on the financial performance of commercial dairy SME's in the county of Kiambu, Kenya. It is a synthesis of the entire study, and contains the summary of research findings, exposition of the findings, commensurate with the objectives, conclusions and recommendations based thereon.

5.2 Summary of Findings

This section will further summarize research findings based on key objectives i.e. influence of reduction of cost of credit on the financial performance of commercial dairy of SME's, influence of increase of the cost of credit on the motivation of the commercial dairy SME's to take loans from financial institutions, the influence of financial service providers within the County and the respondents preferences for these service providers.

The research observed that the interest on the loans taken from financial institutions had quite an effect on the ability of the commercial SMEs to take loans. Most of the respondents stated that if there was a reduction on the current rate of interest on loans, they would likely be motivated to take loans from the various financial service providers. It was very clear in the research that changes in interest rates were the main factor that either motivated the commercial dairy SME's

to taking loans from micro finance institutions and this affected the general financial performance of the commercial SMEs in the county.

The research further showed that most of the commercial dairy SMEs in Kiambu county were practiced by individuals between the age 26-35 and 36-45.who were mainly married and with three dependents. There was a clear need to grow their businesses given the average sizes the families of the respondents. The research also showed that the main source of livelihood for most of the respondents was dairy farming. Kiambu County is prized as one of the largest milk sheds in the country as can be evidenced by the number of dairy cooperatives and milk processing plants within the County. There was a general consensus from respondents of the need to access commercial loans in order to grow their businesses and improve on their incomes from the dairy ventures. According to the study, interest on credit was directly proportional to the motivation of the respondents to take loans from financial institutions.

Financial performance of commercial dairy SME's was noted to be directly affected by the cost of credit. This was evident by the correlation between rates of interest on loans and the financial performance of the commercial dairy SME's. Most respondents agreed that if the current rates of interests on loans and loan terms were favorable, they would either likely take a loan from a financial service provider (for the respondents who cited prohibitive interest rates as the main reason for their inability to access loans) or take more loans from financial institutions (for respondents already accessing some form of loans from financial service providers). Cost of credit was noted to have a direct effect on the loan sizes taken up by the SMEs and the general financial performance improvement of commercial dairy SME's. This was further argued that

access to affordable lines of credit by commercial dairy SMEs would enable entities afford vital factors of production for their business entities that would see improved financial performances of SMEs. High cost of credit therefore put a strain on the financial performance of SMEs by way of locking out vital factors of production. The net effect was therefore an effect on the financial performance of small and medium enterprises as a result of the cost of credit as offered by financial institutions.

5.3 Conclusion

From the study, it can be concluded that the cost of credit has a significant influence on the financial performance of commercial dairy SME's in the county of Kiambu. It is therefore important for there to be effective policy changes and mechanisms put in place that will promote pricing transparency for loans offered by financial services providers with the hope of stimulating competition in the sector. Currently, the Central Bank of Kenya in collaboration with the Kenya Bankers Association introduced the Annual Percentage Rate Calculation for adoption by players in the financial services sector with the aim of enabling consumers compare different bank loan costs. It was hoped that this would have the net effect of easing access to credit and therefore lower the general cost of credit as offered to consumers. However this has not been the case and the APR has had zero effect on the cost of credit as it is priced currently. There is therefore need for effective control mechanisms that will see reduced rates of interest in order to improve the profitability index of the SME's and in proportion improve financial performance of SME's. From this research, it can be concluded that the cost of credit on commercial dairy SME's had a direct effect on the ability of respondents in Kiambu County to acquire a commercial loan to either expand or improve their business ventures.

The effect of monetary policy in the country is positive but weakly significant, which can arguably imply a weak response by financial institutions to the monetary policy signals. If higher spreads are merely interpreted as an indicator of inefficiency, one can easily be tempted to conclude that financial institutions are less efficient, which may not necessarily be the case of other dynamics that require further research beyond this study. For instance, do the shareholders expectations play any role? Moreover, efficiency of financial intermediation is a function of many other factors such as technology, innovation, product diversification, among other factors that go beyond those analyzed in this study.

In sum, the relatively high interest rate spreads remains a subject of debate and continue to pose policy challenges. Although competition in the banking sector has increased over time, it still needs to be further enhanced and supported by policies that encourage and foster competition in the financial sector. These should be complemented with measures to promote the growth of small and medium –sized financial service providers in a bid to enhance their ability to penetrate the low end market so as to break market dominance by a few big players in the sector. This will in doubt have an overall impact to the way financial products are priced and therefore on the general cost of credit.

More policy initiatives such as the recent introduction of horizontal REPOs to help address skewed distribution of liquidity in the industry and credit bureaus to address information asymmetries should be exploited and nurtured. Additionally, banks should explore internally and industry driven strategies that militate against or counter some of the bank-specific factors associated with higher spreads, even as further policies that may be deemed important are

explored. These include a mix of strategies that could range from diversification of products to reduce reliance on interest income and the associated risks, to investment in cost-saving and efficient forms of technology. Other measures should be taken to address inefficiencies that contribute to higher costs within the financial services industry including reforms within the Ministry of Lands.

5.4 Recommendations

The study commends the Central Bank of Kenya and the Kenya Association for their joint effort at introducing the Annual Percentage Rate (APR) pricing mechanism which has enabled consumers compare different bank loan costs based on a standardization parameters and a common computation model. The Credit Information Sharing Initiative by the two bodies is also another effort that is aimed at lowering the cost of credit eventually based on individual customer's risk profile. However, these efforts have not borne much fruit so far towards reduction of the cost of credit in the country as offered to consumers.

In Kenya, effective interest rates per annum range from 40% (Equity Bank's farm input loan) to approximately 140% (CBA's M-Shawri). These prices, without question, lock most individuals out of the market. Again, these rates, while harmful to everyone, severely impact smallholder farmers. 80% of Kenyan's 45 million people are engaged in agriculture production. The vast majority of these ordinary people cannot access loans to grow their family farms and improve their livelihoods. Since high interest rates significantly limit financial access, restricting access breeds insecurity and widens the inequality gap.

Kenya has continued to experience firsthand that as new technologies are introduced, and as corresponding cost structures are significantly reduced inside financial institutions, prices offered to ordinary Kenyans remain unchanged. Banks and MFIs operate in a cartel-like environment. Quarter after quarter and year after year, banks and MFIs report record profits. They charge high interest rates and generate extraordinary profits because they can. From elected officials, to the Central Bank of Kenya and even donors, no one challenges or attempts to disrupt the accepted status quo.

There's an urgent need for an effective legislation and policies to be introduced in the economy that will cap interest rates offered to consumers with the view to increasing access to affordable credit by all and more specifically, towards the agricultural sector. Furthermore, interest rates applicable to the Treasury Bill, which is the government's risk free security, has been unacceptably high and this has had the primary effect of diverting financial institutions into heavy purchase of Treasury Bills. There's therefore need for the government to review and enforce more effective monetary policies that can realize stability in the general level of prices by way of low inflation rates.

The government should further consider alternative means of achieving desired levels of bank reserves through its current Open Market Operations. By injecting money into the market by way of buying securities in exchange for money stock in order to determine the cost of credit (interest rates), this study recommends a more robust measure to actually control effective interest rates. This can be done by introducing incentives to financial service providers to woo them into offering competitively priced loan products.

5.5 Limitations of the Study

The most obvious limitation of the study is its cross-sectional design. Thus, relationships among variables must be interpreted with caution. Interpretations of models using linear regression analysis modeling are also not proof of causality. True causal inferences can only be drawn from testing models using longitudinal data. Since only self-report measures were used, common-method variance and response consistency effects may have biased the observed relationships. However, perceptions of usefulness and ease of use are not objective measures. Because perceptions are necessarily self-reported, such measures are the most effective at measuring these cognitions. Therefore, this is an unavoidable criticism of the study of this nature.

Data collection was confined to only five relatively large constituencies within Kiambu County. Kiambu County is formed up of 14 constituencies namely; Gatundu South, Gatundu North, Juja, Githunguri, Kiambaa, Kabete, Limuru, Lari, Kiambu, East Kiambaa, Kiambaa West, Ruiru, Thika East and Thika West. The study collected data from the following five constituencies; Githunguri, Lari, Kabete, Limuru and Kiambu as these were deemed to have a higher concentration of dairy SMEs in Kiambu County. The replication of the study at different constituencies of Kiambu County and of other parts of the country would enable better generalizability of the findings of the study.

The sample for the present study comprised of 100 commercial dairy enterprises in the County. This sample is only a very small proportion of the entire population of Kiambu County and SMEs in the country. Therefore, research studies with much larger sample sizes would be required to ensure appropriate generalization of the findings of the study. The present study relied largely on quantitative methodology of data collection (though qualitative methodology

was used to a limited extent) and is therefore restrictive. Therefore, more of qualitative methodology of data collection should be undertaken in future to provide wider perspective to the present study.

5.6 Suggestions for Further Research

While the model study examined relevant variables as antecedents and consequences of various attributes, yet there are certain additional variables that were excluded due to reasons like measurements issues, specification error etc. For instance, characteristics of entrepreneurs, characteristics of SMEs, management and know how as well as customers and markets were some of the variables that were not measured in this study but which form an important outcome to the study. These variables could be examined in future research.

This study focused on accessing the effect of the cost of credit and its causal relationship on financial performance of commercial dairy SMEs. Future research exploring this relationship should also focus on a wider scale research at a macro level to deduce more elaborate conclusions on an aspect that touches on national economic development as this study topic.

Lastly, future research should try to further establish the psychometric properties of the orientation scale used and validated in this study. Though the instrument shows scientific reliability and validity, yet this is one of the few studies which sought to explore this topic and more studies are required before it is established and adopted.

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Appendix: Questionnaire

Date of interview	
Name of interviewer	
Name of farmer	
Gender	
Location of farm/enterprise	
Size of farm	
Size of farm under productive use	

Part I: General Data

I – Demographics Profile			
Ref	Question	Response format	Observation
I.1	Male/Female	M F	
I.2	Age	Ranges: 16-25/26-35/36-45...	
I.3	Residence	Farm, House, rented, None	
I.4	Family status	Single, Married, Divorced, Widow	
I.5	Number of dependents	0,1,2,3....10 or more	
I.4	Which activity do you derive main source of income from?	Dairy farming, Agriculture, Small business/Trading Monthly salary, Casual work Pension, Social benefit, Other:	

Farmer Information

- 1.0 What is your highest education qualification?.....
- 2.0 What is your highest level of technical training?.....
- 3.0 What is your age bracket?.....
- 4.0 What is your number of years' experience in dairy farming?.....
- 5.0 How many employees do you have that assist with the dairy section of the farm?.....
- 6.0 How many dairy cattle do you have?.....

7.0 Of the cattle listed above in 7.0, how many are producing milk currently?.....

8.0 How many liters of milk do you get every day?.....

9.0 What is the price per liter of milk that you sell every day?.....

10.0 Do you supply your milk to cooperative society?.....

11.0 If answer to question 11.0 is NO, then how do you sell your milk?.....

Part III: Finance

11.1 Are you a member of any financial institution?.....

11.2 If yes to above question, what services are you enjoying from the financial institution?
.....

11.3 Have you borrowed from the financial institution(s)?.....

11.4 If yes to above, how much was the loan amount?.....

11.2 For how long did you service the loan/ are you servicing the loan

11.3 Do you like the terms of the loan?.....

11.4 If No to above please state why not.....

11.5 If terms of credit offered to you in the market were favorable in loan rates and terms, would you have increased your financial requirements in the business?.....

11.6 In your opinion, what is the greatest impediment to your business financial requirements?...
.....

11.7 Would you consider the cost of financing currently offered in the market as a hindrance to the growth of your business enterprise?

11.8 If yes, please state reasons.....
.....
.....

11.9 In your own opinion, how would you have preferred the cost for loans for agricultural enterprises as your be priced at?.....

20.0 What is your current exposure with your financial institution(s)? Please give a breakdown on where the borrowed funds have been channeled into?.....

.....

20.3 How are you settling your loan obligations?.....

20.4 Based on your own assessment, where would be the greatest impact realized in your farm if you were to access cheaper lines of credit?.....

	1	2	3	4	5
Increased herd					
Increased milk quantity					
Increased revenue					
Increased milk production					

List of Population (Sampled)

	Name	Location	Activity	N# of Milking Dairy Cattle
1	Isaac Wango Kaniu	Chakwa	Dairy	32
2	Wainaina Nganga	Gakoe	Dairy	23
3	Simon Njoroge Kabogo	Kanjai	Dairy	65
4	Peris Wanjiku Kamau	Karinga	Dairy	24
5	Isaac Wanene Njenga	Mungu	Dairy	28
6	Fredrick Muchai Kamiri	Githunguri	Dairy	43
7	Jeremiah Ndiba Kimani	Jamaica	Dairy	34
8	David Chege Njuki	Nguchi	Dairy	33
9	Edward Mungai Maina	Kindiga	Dairy	42
10	George Mwangi Maina	Kambaa	Dairy	67
11	Njoroge Baiya	Githiga	Dairy	65
12	David Njoroge Chuchu	Kanjai	Dairy	54
13	John Gitahi Karoki	Kambui	Dairy	34
14	Godfrey Njogu Gichuki	Machanja	Dairy	32
15	Patrick Chege Kinyanjui	Waingere	Dairy	23
16	Moses Njuguna Kimani	Waingere	Dairy	21
17	William Irungu Kiarie	Mungu	Dairy	20
18	Nelson Gathugo Waiganjo	Matunguya	Dairy	26
19	Reuel Mungai Thuku	Matunguya	Dairy	24
20	Harun Njenga Baiya	Laari	Dairy	25
21	John Nganga Kimani	Kanjuku	Dairy	27
22	Monica Wangui Mwaura	Karinga	Dairy	35
23	Mary Wangui Kinyanjui	Thuthuriki	Dairy	43
24	Samuel Wangombe Ndaguri	Kanjai	Dairy	44
25	Kago Muchogu	Kabete	Dairy	44
26	Moses Nganga Kiarie	Kabete	Dairy	49
27	Hannah Mwihaki Karigi	Githunguri	Dairy	51
28	Peter Nganga Wairimu	Kamwana	Dairy	23
29	Kenneth Kimu Kiroko	Gathanji	Dairy	29
30	Ann Wangari Kiarie	Kabete	Dairy	43
31	John Wachira Thinja	Limuru	Dairy	25
32	Peter Mugai Kihui	Githiga	Dairy	33
33	Bim Gateiya	Githunguri	Dairy	21
34	Henry Ngeru Mote	Gathanje	Dairy	20
35	Ruth Wanjiru Muigai	Kahunira	Dairy	27
36	George Kiunuhe Kariuki	Kiaria	Dairy	20
37	Josephine Mwihaki Wanjiru	Laari	Dairy	18
38	Bernard Ndugu Mburu	Kiambaa	Dairy	21
39	Patrick Ngaruiya Kimani	Kiambaa	Dairy	23
40	James Ndirangu Mbugua	Magomano	Dairy	25
41	Goefrey Njoroge Mwai	Matuguta	Dairy	28
42	Appolo Wathoki Kimani	Kanjuku	Dairy	31

