

**THE EFFECTS OF CREDIT REFERENCE BUREAUS ON THE COST OF
CREDIT AMONG COMMERCIAL BANKS IN KENYA**

BY

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DECLARATION

This Research Project is my original work and has not been presented in any other University.

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This Research Project has been presented for examination with our approval as the University Supervisors.

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DEDICATION

I dedicate this research to my lovely wife: Teresia Wairimu Thumi and our children.

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My special appreciation goes to the Almighty God who has given me the strength, direction and wisdom during my Post Graduate studies.

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LIST OF ACRONYMS

ACCIS	Association of Consumer Credit Information Supplier
CBK	Central Bank of Kenya
CRB	Credit Reference Bureau
FSD	Financial Sector Deepening
GDP	Gross Domestic Product
KBA	Kenya Bankers Association
MFI s	Microfinance Institutions
NPL	Non Performing Loans
SPSS	Statistical Package for Social Sciences

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ABSTRACT

Credit risk management has always been a central issue in successful commercial bank management. Loan delinquencies arise due to debt default. The study sought to determine effects of CRB firms on the cost of credit among commercial banks in Kenya. This study adopted longitudinal design which is one in which multiple observations are made over time to establish a trend. The population consisted of all the 44 lending institutions operating in Kenya. Secondary data was used from banks' annual reports, the general business publications, reports from different financial institutions and the central bank's annual supervisory reports. Correlations of the independent and dependent variables will be analyzed to identify the direction of the relationship between the variables under study. This was followed by analysis where both descriptive and inferential statistics will be used. The findings will be presented by means, standard deviations, tables and figures. Statistically significant association exists between annual inflation and the cost of borrowing among financial institutions in Kenya. Interest charged on deposits affect cost borrowing among lending institutions in Kenya. Interests on T-bills also affect the cost of borrowing among lending institutions in Kenya. Statistical association was established between annual CBR and cost of borrowing among lending institutions in Kenya. Furthermore, CRB affects the cost of borrowing among lending institutions in Kenya. Central Bank of Kenya should put in place sound monetary and fiscal policies that stabilize inflationary pressure within the country. This will keep the inflation rates stable and therefore making the cost of credit affordable. The study also recommends that lending institutions in Kenya should offer affordable interest rates on customer deposits. There should be minimal discrepancies between interest charged on deposits and interest on loans advanced to customers by lending institutions in Kenya. Central Bank of Kenya should supervise and regulate the interest on T-bills charged by lending institutions on short term credit. The study further recommends that the national treasury in connection with the central bank should fully operationalise the credit reference bureau mechanisms. Sound policies ought to be set in place to guide the functioning of the CRB in Kenya.

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Information asymmetry among credit facilities lenders and borrowers has increased the cost of credit as lenders strive to cushion themselves from the likelihood of failure to repay the loan by the borrowers. Schreiner (2001) identified that lenders face high risk bad debts. He discovered that big amount loans have greater exposure, and therefore high variable costs per dollar. This has led to commercial banks and other lending institutions charging uniformly high interest rates even on individuals who have a good repayment reputation. Failure to access to loans limits poor people from share of society resources, hence they are not able to access basic need and available opportunities. In order to streamline the credit market, the central bank together with key stakeholders in the financial market introduced credit reference bureau which keeps records of individual borrowers and their repayment behaviour. This was meant to bring down the cost of credit among individuals with good repayment history. Need to establish Credit Reference Bureau (CRB) was put in place so as help banks in analysing credit worthiness of the loan applicants. They assist in sharing credit information of loan applicants (Schreiner, 2001).

My study was anchored on three theories: information asymmetry, adverse selection and moral hazard theory. Information asymmetry happens when a certain person interested in to a transaction has more information than the other person. This theory argues that not all the stakeholders have the same information about the market which may lead to

different banks charging different interest rates and still get customers. Information asymmetry negatively affects financing by; a) limiting accessibility or increasing costs. Therefore, information asymmetry affect access of loans by different loans applicants and hence economic growth of a country. Other studies argue that the use of bank credit reference buaureus reduces frictions in capital markets by increasing monitoring hence resultant increase in information availability (Faulkender & Petersen, 2006). Some research conducted noted that information asymmetry negatively affects lending by banks and hence limits borrowers from using bank loans to enhance working capital (Hardin & Hill, 2010). Adverse selection theory holds when parties to a transaction are about to agree, but one party have some information compared to the other. Moral hazard on the other hand occurs in a situation of the information asymmetry after a deal is closed between parties,.

Credit reference bureau was introduced in Kenya following the enactment of laws providing for it in the year 2008 and then implemented in the year 2010. This was seen as a positive move to reduce the cost of credit and delinquent loans because banks can share information about the credit standing of their customers. It was also meant to make it easy to access credit and at a cheaper cost for individuals with a good credit history. However, the cost of credit has remained high which saw the Parliament come up with Interest Rate Capping Bill recently signed into law. This has seen commercial banks charge four percentage points above the Central Bank Rate.

1.1.1 Credit Reference Bureau

A credit reference bureau (CRB) is an institution established to collect and collate credit information from various sources and provide the same to consumers for a variety of uses including lending institutions such as banks and Saccos. It compliment the role played by lending institutions by extending financial services within an economy. It provides a person's borrowings and loans repayment behavior, this information include persons Identification bankruptcy and all the loans related enquiries. Other information include: forgeries and conman ships, unpaid cheques, overdrawn accounts, unpaid credit cards, misrepresentations and fraudulent loans collateral. This assist banks in determining whether to adance a loan, the cost of the loan and the underlying restrictive covenants (Koopman, Wang 2010).

The information content gathered by CRBs has to be timely, accurate and detailed on the repayment trends and prevailing data of loan applicants and generally for any individuals who have at one time or another used the financial system to transact. The biggest winners under a fully fledged CRB are the individual borrowers and households. This is because the credit history allows borrowers to be able to negotiate terms with lending institutions based on a favorable credit history hence increasing market competitiveness and hence increase loans affordability since the banks need not impose the risk premium in their loans. Credit bureaus make credit to be advanced to increased number of applicants with positive repayment history and hence enable lenders to reduce credit risk of default as well as frauds. Credit risk is reduced by limiting the asymmetrical information challenges and enables the public to be aware of the benefits of having a

positive credit history. The positive credit history is accessible through a credit score report (Mumi, 2010).

1.1.2 Cost of Credit

Cost of credit represents the consideration on amounts advanced to individuals in the form of loans. It is commonly known as interest rate or the lending rate. It represents the compensation received by the lender over and above the amount advanced. The price of a loan is equal to the cost of current consumption and surplus that is invested income. It is the interest rate, determined by loans desirability and availability funds (Mishkin, 2004). The costs incurred by commercial banks also determine the Cost of credits they offer their customers. This is because commercial banks face a number of costs in their operations for example cost of funds, operating costs like wages and costs of information. Operational costs which include staff costs, for most financial institutions are high and this has a bearing on the determination of base lending rates (Barone, Felici & Pagnini, 2011).

Banks price loans based on two approaches: i.e. A collection pricing practices known as loan-able funds model; and liquidity preference model (Mishkin, 2004). Collection pricing practices banks use pricing strategies such as price undercutting, collusion, non-price competition as well as game theory on price. Most firms like adoption of pricing undercutting and collusion compared to the uncertain option of price wars. Lenders apply to price games theory and price competition when they are unable to deploy pricing undercutting and collusion (Avlonitis and Indounas, 2001).

1.1.3 Relationship between Credit Reference Bureau and Cost of Credit

The main aim of a CRB is to share information about borrowers credit history to lenders who make decisions on granting loans. CRB firms also retain credit history of the entities and also perform scoring of such an individual or entity. Credit data provide necessary information credit underwriting, They also provide an avenue for loan applicants to move their credit character from one financial institution/banks to another hence make lending competitive and more affordable. CRB firms help in making credit accessible to more firms and persons which assists the lenders and businesses to reduce credit risk, operational losses, administrative costs as well as reduce fraudulent applicants (Triki & Gajigo, 2012).

Credit reference bureau is supposed to reduce and control the costs of loans extended to customers. This is because CRBs can help in reducing information asymmetry. The storage of data in the CRB has ensured that most borrowers in the country have a known profile. These profiles help in the generation of credit scores, which are important in forming various risk profiles of borrowers. Good borrowers can now bargain for better credit terms such as lower interest rates and larger amounts of loans. This indicates that CRBs can help in reducing the cost of borrowing (Button, Pezzini & Rossiter, 2010).

1.1.4 Banking Industry in Kenya

The banking industry in Kenya and any other country is highly regulated. Central Bank of Kenya CBK sets, oversee and determines the country fiscal and monetary policies. Kenya banks also have an umbrella organization/association called Kenya Bankers Association KBA which articulates their grievances. This is a lobby group for the local

banking industry. It creates a platform for commercial banks to address issues that affect the banking sector.

In year 2015 the Kenyan banking industry was stable and resilient of any micro and macro economic factors. It recorded a 9.2 % growth from Ksh. 3.2 trillion as at 31st December 2014 to Ksh. 3.5 trillion in as at 31st December 2015. This is regardless of the global economic slowdown to 3.1 per cent in 2015 from 3.4 per cent in 2014. The global slowdown was majorly attributed to a slump in China economy which has big global impact and slow growth in Eurozone economies. The global financial markets were also volatile in most of 2015 following uncertainty in respect of the timing of the increase in U.S. interest rates, and the easing of monetary policy in the Eurozone (Central Bank Annual Report, 2015). There are 43 commercial banks currently operating in Kenya according to Central Bank Annual Supervision report 2015.

1.2 Research Problem

Credit risk management has always been a central issue in successful commercial bank management. Loan delinquencies arise due to debt default. Debt default threatens the soundness of financial systems of any economy and specific banks. With the adoption of the CRB regulation in 2008, the banks have been mandated to share credit information with the licensed CRBs in order to set up a database for all borrowers and enable checks and balances in the credit market (Saunders & Allen, 2010).

According to the banking survey by Central Bank of Kenya (2012), the high interest regime witnessed in the first half of 2012 impacted negatively on the quality of loans and advances. Which lead to a spike in (NPLs) by 16.8 percent from Ksh 53.0 b in December

2011 to Ksh 61.9 b in December 2012. Similarly, the ratio of gross NPLs compared to total loans and advances in the entire economy rose by 2% percent in December 2012.

Several studies have examined the relationship between credit reference Bureau and Cost of credits. For instance, Wanjiru (2013) researched on effect of CRB on credit access through a survey on all commercial banks in Kenya and established that CRB increases access to a moderate extent. According to Sinare, (2008), CRB firms are intermediaries who provide lenders with timely, accurate and detailed data on the loans repayment character and exposure on debts of the applicants. Scapens (2000) indicated that it is not easy to obtain accurate information on the loans repayment character of the prospective borrowers and it is even not easy to populate reliable analysis on their credit character history. Determining the credit worthiness of borrowers by lenders is thus difficult and hence lending is mostly done with asymmetrical information on loan character of borrower.

Locally, Gikonyo (2014) examined the impact of CRB firms on loans accessibility in Kenya and established that all the lending institutions should adopt the use of CRB report as a means of assessing the credit worthiness of the borrowers thereby minimising the risk of bad debts. Oogo (2014) conducted an assessment of the impact of the CRB firms on NPLs in commercial banks in Kenya and established a positive impact on the reduction of NPLs. He further recommended that they should be adopted by all banks/other lending institutions so as to mitigate the high rate of loans default.

As evidenced in the studies reviewed above, the existing studies have examined the relationship between credit reference bureau and other factors not cost of credit. This

study sought to provide information to fill this gap. The study sought to answer one research question: How does credit reference bureau affect the cost of credit among commercial banks in Kenya?

1.3 Research Objective

The study sought to determine effects of CRB firms on the cost of credit among commercial banks in Kenya

1.4 Value of the Study

The findings of this study would be helpful to regulatory bodies that include the Central Bank, the National treasury and the Kenya revenue authority. The findings of this study will help the CBK in formulation of proper policies and regulations to govern the banking sector. The study would be of great help to the national treasury and the tax authority as they seek to generate national revenues.

Management of commercial banks both in Kenya and outside Kenya would greatly benefit from the findings of the study. The study would explore the effect of CRB and the costs of loans offered to customers. The recommendations to be drawn from this study would help management of commercial banks to make informed decisions for growth and sustainability of the banks.

Academicians and researchers would greatly benefit from the findings of this study. The study would create a gap for other researcher to fill. The study would add more knowledge to the existing one that will be beneficial for scholars and other researchers.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter presents a review of the theories related to credit reference bureaus and Cost of credits. The determinants of Cost of credits are also presented in this chapter. The chapter also presents the empirical literature which reviews the concepts and ideas of other scholars on the subject of credit reference bureaus and Cost of credits. The conceptual framework which diagrammatically illustrates the relationship between the variables of the study is also presented in this chapter.

2.2 Theoretical Review

This study will be anchored on three theories: information asymmetry theory, adverse selection and moral hazard theory. These theories are related to credit reference bureaus on the Cost of credits. The theories are therefore relevant for the study. These theories further built a strong base for the study.

2.2.1 Information Asymmetry Theory

Information asymmetry refers to a situation where information is not known to all persons involved a certain transaction (Ekumah & Essel, 2003). The theory was particularly influenced, developed and written by three economists: George Akerlof, Michael Spence and Joseph Stiglitz in 1970s and 1980s. Akerlof (1970) in a paper on;

“The Lemons Market”: Quality, uncertainty & Market forces, first argued about information asymmetry. It was stated that buyers vehicles have different information compared to the person disposing the same, This advantaged information allows the seller to sell goods of substandard quality at the prevailing market price. Hence the word "lemons” is used in this context to mean bad cars. Akerlof indicates that the advantaged information possessed by sellers gives them an impetus to sell substandard goods and inferior goods at prices that these goods should not ordinarily fetch. As a result, the average quality of goods/ services in the market declines which leads to shrinking of the market size. This can be mitigated by having several firms which allows free flow of information in the market.

Spence (1973) in a paper; Job Market Signaling, identifies information asymmetries between staff and the company owners or directors who run the institution. This results in low-paying cardle of staff who creates in equilibrium trap that discourages competitive pay and well as hinder ability of trade unions to aggressively tackle staff wages issues because some staff are not aware of the correct market compensation for their skills. Stiglitz's (1975) used a theory of market screening to author or co-author several papers, including significant work on asymmetry in insurance markets. Information asymmetry therefore occurs when a party has information which the other party does not have which creates an imbalance of power in transactions or financial institutions. Information asymmetry can occur on both the side of the borrower and the side of the bank. The borrower has more information regarding his credit history and on how he intends to use the money lent once he receives it. On the other hand, the bank could have more information regarding the actual cost of the loan than the borrower. This theory is

relevant for this study because it seeks to explain the effect of information asymmetry on the prevailing differences in the Cost of credits. As a result of information asymmetry, loan applicants will be charged different interest rates.

2.2.2 Adverse Selection Theory

The theory was advanced by Stiglitz and Weiss (1981). This theory is based on assumptions that lenders cannot distinguish between borrowers credit character to large degree. Adverse selection occurs when firms or persons to a transaction are about to agree on a trade, and one of party have some information that the other(s) do not have. (Akerlof, 1970; Spence 1973; Rothschild & Stiglitz 1976).

Akerlof (1970) indicates a private person who has more information about the quality of a car. There is likely hood of the buyer acquiring the car at unfair price because he does not have crucial information which is only possessed by the seller because he is not a mechanic or has not technical ability to assess the quality and further the seller may not allow him the perform detailed technical checks before committing. Spence (1973) refers to a laboures who work but have no private information about the market pay for their skills, while Rothschild and Stiglitz (1976) identifies insurance market in which individuals credit information is with the insured unless the insurance firm conduct detailed health condition checks which may not be discovered. It also refers to insurance firm not knowing the driving practices of the insured and therefore may end up assuming and insuring very high risks which will crystalize in future.

Further investigation of adverse selection theory noted the arrangements that allow segmentation of the markets.

By exchange of customers' credit information, banks get to understand the credit paying behaviour of their applicants'. Availability of information to all parties on the applicant credit character lead to reduction in informational asymmetries it leads to reduction in adverse selection challenges by the lending institutions, loan borrowers character and commitment to repay because they know failure to pay will have future implication because one will not be able to access credit and if they access the risk profile will be rated as adverse and hence increased interest rates and other repayment related costs. As a result this model allows borrowers to repay their loans because they know that default has serious future implications discussed above.

Pagano and Jappelli (2014) noted that sharing of borrowers credit character reduces adverse selection hence improve banks non performing debts as well as enabling them to properly price applicants risk. If CRB firms exchange information about loans applicants credit character, assessing the character of non-local credit applicants will be possible, and banks will give credit to the non-local clients as they do with local clients. Sharing of credit information creates motivation for borrowers to perform in line with banks' interest. Klein (2013) noted that there is motivation amongst borrowers to repay loans and advances because they know their information will be shared among lenders as well as make it difficult to access credit and increase borrowing cost to defaulters when the regulatory environment improves banks enforcement of credit contracts. In Klein's model loan borrowers meet their part of the contract according to the agreed schedule because they are aware that default will lead to listing in CRBs thus negatively influence their future chances of getting a credit facility. This enables businesses to access the working capital and other forms of financing or will access the same at a premium due to default

history or at a discount due to good loan repayment history. The profitability of an institution is affected by its efficiency (Pagano & Jappelli, 2014). This theory is relevant for the study as it explains the fact that borrowers do not have uniform risk exposures hence the need to charge varying interest rates depending on the customer riskiness.

2.2.3 Moral Hazard Theory

Moral hazard refers to a situation where players in the market are able to pass their inefficiencies to customers or consumers of their services because they are able to avoid costs associated with their conduct due to legal and other market restrictions and barriers to entry. This theory is often which argues that one is likely to expose themselves to too much risk because they know they are insured against the related harm, Such an insured person no longer take caution to reduce the likely hood of harm happening. (Bonnitcha, 2011). It also occurs due to information advantage between two individuals/ firms or parties to a transaction. The theory is analysed in a principal-agent relationship where the principal hires an agent to do some work at a pay but once the contract has been signed, the agent can misbehave, or obtain information about the environment that the principal cannot acquire and hence use the information for self benefit an the cost of the employer.

The moral hazard problem also indicates that credit borrowers have the motivation to default loan repayments inn absence of consequences but once consequences are put in place, they will tend to pay. This result from the difficulty lenders have in assessing the amount of money the loan borrowers will have amassed within time limit upon which the amount borrowed should have been repaid and not at the moment of application. The borrower will default as long as the seller cannot be able to access the level of wealth

accumulated by the borrower. To cover themselves from this risk, the lenders will charge a premium by increasing applicable interest rates which will make lending to breakdown eventually (Alary & Goller, 2001). This theory is relevant to this study because it helps explain the negative where borrower knowingly takes up a loan with the no intention of repaying.

2.3 Determinants of Cost of credit

The availability and Cost of credits is a function of a number of factors. Credit rating of customers is one of these determinants of the Cost of credits among commercial banks in Kenya. The credit ratings are obtained from CRB which maintains credit information of customers. The major role of CRB is to provide borrowers credit information to lending institutions in an economy. The information will help lenders make faster, timely and credit decisions by collecting, collating, analyzing and sharing the customer's credit information to lenders (Banking/ Credit Reference Bureau Regulations, 2008). Credit reference bureau contain credit histories that provide important information in determining whether to extend credit facilities to a given loan applicant or not. Credit histories also allow the borrowers carry their credit information from one bank to another hence making lending more competitive and more cheap. Credit bureaus enhance accessibility of credit to borrowers, this reduces default risk (Kithinji, 2010).

Credit reference bureaus rely on credit scores to generate the credit rating of the customers. A score is computed by applying a mathematical formula on customers data collected over a period of time like three to ten years this is known as is called credit rating. The rate shows borrowers credit history and character on loans repayment. Banks

use the information to underwrite and price credit risk with those with good rating attracting a discount and those with default history being slapped with premium in terms of high interest rate.

Macro economic variables also determine the Cost of credits among commercial banks. These variables consist of inflation rate, growth in GDP and exchange rate. These variables act to affect the cost and availability of credit to customers. Persistent increase in the general prices of goods and services in an economy over time is known as inflation. The relationship between cost of credit and inflation is ambiguous. Higher inflation rate reduces cost of servicing debts due to loss in real value of money/outstanding loans as is the case of hyper inflationary economies where loans amounts remain the same but money in circulation is too much hence borrowers are able to pay off their loans. It can also reduce ability to service debts due to reduced purchasing power and loss in real value of money. (Nkusu, 2011). Lenders also increase the interest rate to cushion themselves from inflation hence making cost of credit to be too high in a hyperinflationary economy. This reduces borrowers' loan-servicing capacity and leads to increased default. (Skarica, 2014).

The real GDP referred to in this study is a measure of the value of economic output adjusted for price changes. Increasing real GDP result in decline NPLs (Beck, Jakubik & Piloiu, 2013). This is because positive growth in real GDP results in more disposable income, this increase ability to repay debts hence NPLs reduces and vice versa (Khemraj & Pasha, 2009). These findings indicate that a negative relationship exists between GDP and Cost of credits.

The real exchange rate is the price of a nation's currency to another currency. A decrease in value of a currency compared to another puts pressure to finance letters of credits issued to traders by commercial banks which increases credit risk and hence NPLs due to default and increased cost of credit as lenders price the risk premium and vice versa (Badar & Javid, 2013). The impact of exchange rate on the NPL and cost of loans is high to especially for lending foreign currencies to (Turan & Koskija, 2014). Thus, a positive relationship between these variables is expected.

Commercial banks are also exposed to various risk factors which determine the Cost of credits they advance to their customers. Some of these risks that commercial banks face include interest risk, foreign exchange risk, credit default risk and regulatory risk, information asymmetry and the policy environment. For example, when a financial institution holds unmatched maturities of loans they are exposed to interest rate risk to cover the arising assets liabilities mismatch. This is even more pronounced when short-term assets are used to cover long-term liabilities by banks. Variability in market interest rate is also used to refer to interest rate risk (Delis, & Kouretas, 2011).

Credit risk exposure arises as a result of inadequate flow of credit standing information between borrowers and lenders. Exact proportion of loans that will not perform is not known by banks upfront at the time of underwriting. To mitigate and cover them self from bad debts administration costs, banks charge a premium which depends each institution credit policies and procedures, return on alternative investments and quality of collateral though the latter is more of a deterrent or a fall back plan in event of default but it can also be used by banks when pricing risk premium. A good collateral will result in lower pricing than uncollateralized lending. (Nijskens & Wagner, 2011).

Another determinant of the Cost of credits among commercial banks is the market structure. Market structure refers to the degree of competition that includes the number of market participants, level of information flow and risk appetite by different lenders, the market share held by different players, ownership, control and the prevailing regulatory environment. Where interest rates are regulated by authorities, banks tend to ration credit and divert their investments into risk free assets such as government bonds and bills hence affecting the economic growth and hence impacting negatively on cost of credit and level of NPL (Forssbäck, 2011).

2.4 Empirical Literature

2.4.1 Introduction

Various studies have been conducted concerning effects of CRB firms on the Cost of credits among banks. These studies are on an international and local scale. This section will present review of the concepts and ideas of other scholars on international and local scale.

2.4.2 International Literature Review

A study was conducted by Dankwah (2012) on the relevance of CRB firms in Ghana and the effect of information sharing. He utilized quantitative research approach in answering research questions; primary data was utilized in the analysis. In May 2012 field surveys were commissioned which utilized questionnaires for collecting data. The study found out that most financial consumers finance their personal working capital and other financial needs by borrowing from families, friends and utilizing personal savings;

very few take bank loans to finance projects especially for startups due to prohibitive requirements by banks.

Rothmund and Gerhardt (2011) conducted a study on European credit information sharing, amongst and obtained responses from 30 members. Qualitative evaluation and descriptive statistics were used by ensuring that the questionnaires were properly designed to collect this data. The noted that in most countries (17), credit reports were in customers files which were also accessible online through the internet could be received by a 3rd party in five. In a few cases, the report may also be obtained via fax, e-mail or on the phone an indication of credit information sharing which enhanced credit decision among the member countries.

De-Janvry, Sadoulet, McIntosh and Wydick (2016) conducted study on CRB firms and the rural microfinance sector setting in different countries in developed countries. The study aimed at investigating the development of the microfinance sector and the penetration of credit reporting systems in countries where they are quite widespread. The three countries were covered individually. The findings of Peru indicated that regulated (Microfinance Institutions), MFIs use the public credit referencing system consistently but they and the unregulated MFIs have varying rules for the use of the private CBR databases.

Kessey (2015) by applying an indepth analysis and case studies both exploratory and explanatory assessed how lending institutions could apply several credit risk management practices for minimal credit risk exposure by looking at the processes and challenges. He performed trend analysis to assess behavior of credit rating sharing on credit risk

management operations in an organization. Secondary data on the bank's loans portfolio was obtained from financial annual reports. The study revealed that the banks have approved policies and guidelines with top management overseeing adoption/implementation. The study also noted challenges in implementation of some credit procedures captured in these policies resulting in low quality of loan portfolio. Other recommendations were frequent review and enforcements of compliance should be done often.

Rusuhuzwa, Karangwa and Nyalihama (2016) conducted a study on determinants of interest rate spread in Rwanda: empirical evidence. The study used Arellano-Bond dynamic panel data to show that credit risks, operating cost and inflation positively influence interest rate spread in Rwanda, though the effect of the latter is quite small. Panel data fixed effects and random effect estimation also confirmed these results. The findings above imply that banks need to adopt consolidation and cost minimization strategies alongside strengthening of their credit management mechanisms to help reduce credit risk.

Addae-Korankye (2014) examined causes and how to reduce/control default risk in microfinance institutions in Ghana. By randomly sampling of twenty-five microfinance institutions and two hundred and fifty clients. He deployed questionnaire and interview guide to collect data for the study. The study noted that the main causes of loan default and high cost of credit were; high interest rate, poor underwriting practices, lack of portfolio monitoring, and improper customer selection. He recommended the following measures to reduce/mitigate default; staff training on underwriting, affordable costing and proper portfolio monitoring as well as embedding proper underwriting practices.

Kateregga (2013) by use of questionnaires, case studies, and both qualitative and quantitative techniques examined cost of lending and loan portfolio performance among lending institutions in Uganda. He Sampled 73 respondents of Centenary Bank, case study methodology was applied where a questionnaire was used to collect data. It was established that despite the fact that Centenary Bank adhered to all procedures and regulations on credit underwriting and administration, there is were some customers that could not repay their loans on time leading to loan arrears and persistent bad loans.

2.4.3 Local Literature Review

Gaitho (2013) established that CRB played a key role in monitoring the credit payment behaviour of many Kenyans. The information shared by CRB motivated individuals to start adhering to their loan repayment schedules which improved the overall level of nonperforming loan facilities in the country. It was noted that increased sharing of credit ratings would lower the risk profile of many applicants because of the fear of the repercussions for non repayment. The study further noted that CRB introduction had been envisaged to reduce the cost of lending in the Country.

Wairimu (2013) noted that CRB improves the loan book of lending institutions as it encouraged many loan beneficiaries to repay. The study adopted an event study design and regression analysis method aided in the analysis. The study was carried out on the 42 operational commercial banks. The researcher used t-test to analyze the data and the null hypothesis was: there is no positive significant effect of CRB on NPL in major lending institutions in Kenya. Secondary data was collected from published financial statements of commercial banks in Kenya between years 2007 to 2012. The findings of the study

indicated that CRBs had an effect on NPLs; there was an average reduction of 4% on the level of NPLs in the years after the introduction of CRBs i.e. 2010-2012 and the null hypothesis was rejected; there was positive significant effect of CRBs on the level of NPLs.

Segita, Limo and Muhanj (2014) examined how perfect flow of information and CRBs affect accessibility to credit among bank customers and established that by sharing information, other banks would have adequate information to apply in their decision to extend a credit facility or not to. The findings indicate that more than 50% of the customers did not have information on the existence and functions of CRB. This study concentrated on the level of awareness among customers on the role played by CRB as opposed to how CRB affected the cost of lending.

Okiya (2016) conducted a study on impact of credit reference bureaus on credit risk management among selected commercial banks in Nairobi, Kenya. The study adopted a descriptive survey design while the population of interest consisted of 46 commercial banks operating in Nairobi out of which only 31 banks (tiers I and II) were selected purposively. Primary data was collected by self-administering close-ended questionnaires, following a five point Likert scale, to the respondents through drop and pick method. Responses to the questionnaires were analyzed, processed and tabulated. The study found out that to a great extent Credit Reference Bureau procedures affected credit risk management in the commercial banks and that upon the request of a user,

credit reference bureaus provided credit reports that contained particular individuals' credit history.

2.5 Conceptual Framework

A conceptual framework refers to a network of linked concepts clearly showing how they relate. The conceptual framework in this study identifies the independent variables being: credit reference bureau information access by banks in Kenya, annual inflation rate, annual interest on deposits, and interest on 90 day T-bills and annual Central Bank rate, the dependent variable being Cost of credit. All these are examined on how they relate with cost of credit in Kenya with the key focus being the effect of access to CRB information to cost of credit since this is a new variable that was introduced by the regulator in Kenya banking industry from year 2008 and operationalized in year 2010.

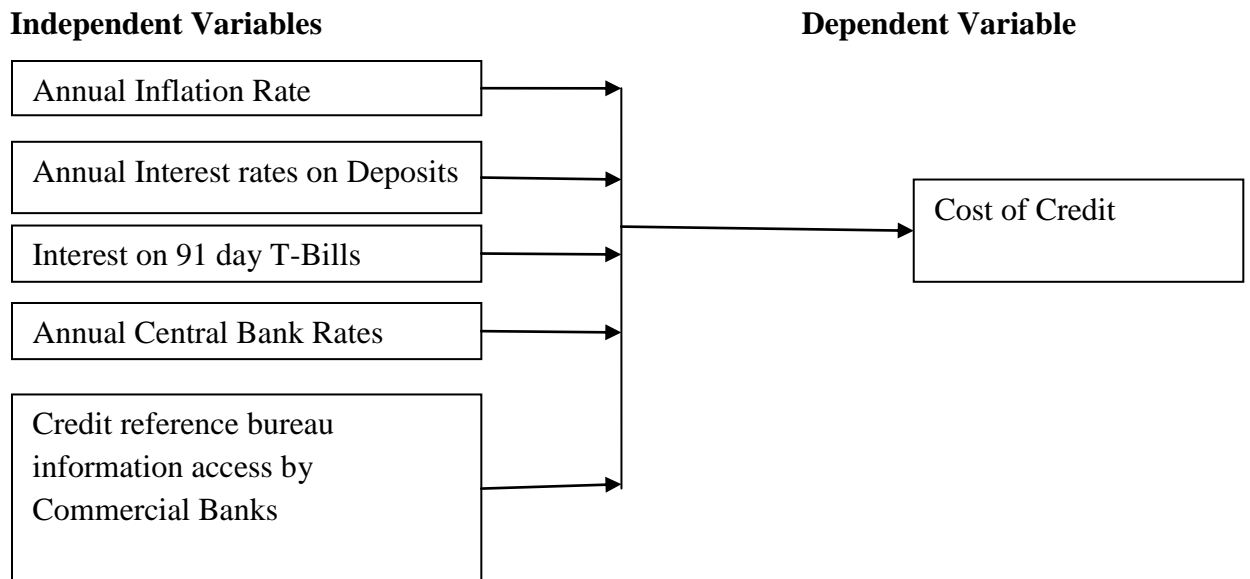


Figure 2.1: Conceptual Framework

2.6 Summary of the Literature Review

Several theories that form the basis of this study were reviewed. More specifically, the information asymmetry, adverse selection and moral hazard theories were reviewed. The empirical studies on effect of CRB and Cost of credits that were carried out on both international and local scale were also reviewed. However, most of these studies paid much focus on CRB and the general financial industry (Dankwah, 2012); CRB and the whole economy (Rothmund & Gerhardt, 2011), CRB and Microfinance sector (De-Janvry, Sadoulet, McIntosh & Wydick, 2016; Addae-Korankye, 2014), credit risk management practices in the banking industry (Kessey, 2015; Okiya, 2016), determinants of interest rate spread (Rusuhuzwa, Karangwa & Nyalihama, 2016), CRB and Non performing loans, (Wairimu, 2013), asymmetry of information on credit reference bureaus (Segita, Limo & Muhanj, 2014) and CRB and credit access (Gaitho, 2013). None of the study above focused on CRB and the Cost of credits. This study therefore seeks to fill the gap by assessing the effects of credit reference bureaus on the Cost of credits among commercial banks in Kenya.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Here, methodology applied in the study is presented to ensure exhaustive achievement of the study objectives. It is subdivided into different subsections including research design, study population, sampling design, data collection and data analysis.

3.2 Research Design

This study adopted longitudinal design which is one in which multiple observations are made over time to establish a trend (Saldana, 2003). This study design will be appropriate because the study covered a period of 10 years. This study design also helped the researcher to obtain data on effects of CRB on the Cost of borrowing among lending institutions in Kenya.

3.3 Population of the Study

The population consisted of all the 44 lending institutions operating in Kenya (Central Bank Supervisory Report, 2015). The study employed census on 43 commercial banks since the population of banks is so small for carrying out sampling.

3.4 Data Collection

Secondary data was used because it is readily available on the banks' websites and the central bank annual reports. This would minimise the time in the field for collecting primary data. This secondary data was collected from banks' annual reports, the general business publications, reports from different financial institutions and the central bank's

annual supervisory reports. The analysis of these data took a period of 6 years from 2010 to 2015 since the CRB came into effect.

3.5 Data Analysis

This study will use hypotheses testing, multiple linear regression and correlations. Hypotheses testing was done through formulation of the null and alternative hypotheses.

Correlations of the independent and dependent variables will be analyzed to identify the direction of the relationship between the variables under study. This was followed by analysis where both descriptive and inferential statistics will be used. The findings will be presented by means, standard deviations, tables and figures.

3.5.1 Analytical Model

This study used hypotheses testing and Chi-Square test. Hypotheses testing was done through formulation of the null and alternative hypotheses. From each research question the null hypotheses were formulated that stated that the explanatory variables did not influence the dependent variable.

The study will use a Chi-Square test. This model will be in form:

$$\chi_c^2 = \sum \frac{(O_i - E_i)^2}{E_i}$$

Where subscript “c” represents the degrees of freedom. “O” is the observed value and E is the expected value. The summation symbol means that monthly calculations will be performed in the data set.

The mean of the study variables before the introduction of CRB will be compared with the means after the introduction of CRB to check whether there is statistical difference between the means.

CHAPTER FOUR

DATA ANALYSIS AND RESULTS

4.1 Introduction

This chapter presents the results of the analysis on the collected data. The study was established to investigate the effects of credit reference bureaus on the cost of credit among commercial banks in Kenya. Data for the study was exclusively gathered from secondary sources and the analysis was achieved by the use of SPSS software version 22. The findings are presented in subsequent sections.

4.2 Descriptive Statistics

In order to achieve the purpose of the study, the researcher conducted descriptive statistics through means and standard deviation on the variables of the study. The findings are presented in Table 4.1.

Table 4.1: Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Annual Inflation	132	1.85	19.72	8.3026	4.75110
Interest Rate on Deposits	132	3.10	8.21	5.2803	1.41590
Interest On 91 day T-Bill	132	2.17	21.65	7.3095	3.22452
Annual Central Bank Rate	132	6.00	18.00	8.9168	2.41760
Credit Reference Bureau Information	132	.00	503484.00	86381.0833	141836.23554
Cost of credits	132	10.21	20.20	14.8091	2.26612

The findings from Table 4.1 indicate that the annual inflation had a minimum value of 1.85%, with a maximum value of 19.72%. The mean was 8.3026% with standard deviation 4.751%. Regarding the interest rate on deposits, the minimum value was 3.10% with a maximum of 8.21%, the mean was 5.28% with standard deviation of 1.146%. The

findings of the interest on 91 days T-Bill indicated that the minimum value was 2.17%, with a maximum value of 21.65%, the mean was 7.3095% with standard deviation of 3.225%. The findings of the annual central bank rate indicated that the maximum value was 18% with a minimum value of 6%, the mean was 8.917% with standard deviation of 2.41760. The findings of the credit reference bureau had a minimum value of 0.0 credit reports with maximum value of 503484 reports; the mean was 86381 reports with standard deviation of 141836 reports. The findings of the costs of loans indicated that a minimum value of 10.21% with a maximum value of 20.20%, the mean was 14.8091 with standard deviation of 2.266%.

4.3 Chi Square Test

Chi square test was conducted to establish the relationship between introduction of CRB and the Cost of credits. The findings are summarized in subsequent sections.

4.3.1 Inflation and the Cost of credits

The study sought to determine relationship between inflation and the Cost of credits among commercial banks in Kenya. The findings are presented in Table 4.2.

Table 4.2: Inflation and the Cost of credits

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	12419.000 ^a	12444	.00561
Likelihood Ratio	1170.831	12444	1.000
Linear-by-Linear Association	.249	1	.618
N of Valid Cases	132		

From Table 4.1, the Chi square between inflation and the cost of credit among commercial banks was 12419 with p value of 0.00561. This means that there is statistically significant association between inflation and the Cost of credits among

commercial banks in Kenya. This is because the p value is less than 0.05. The findings imply that inflation rates influence the Cost of credits among commercial banks. It can also be inferred that an increase in inflationary pressure increases the cost of credit among commercial banks. The findings concur with Skarica (2014) who found out that general increases in prices may manifest itself in nominal interest rate as financial institutions adjust their rates to maintain their profitability.

4.3.2 Interest on Deposits and the Cost of credits

The study sought to assess the relationship between the interest that commercial banks charge on deposit accounts and the costs of loans. Table 4.3 shows the summary of the findings.

Table 4.3: Interest on Deposits and the Cost of credits

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9342.667 ^a	9282	.0327
Likelihood Ratio	1073.736	9282	1.000
Linear-by-Linear Association	64.454	1	.000
N of Valid Cases	132		

From Table 4.3, the Chi square value was 9342.67 with a p value of 0.0327. This implies that statistically significant association exists between the interest charged on deposits by the lending institutions in Kenya and the cost of borrowing. The findings suggest that interests that commercial banks charge on customer deposits determine the cost of credit.

4.3.3 Interest on T Bills and the Cost of Credit

The study sought further to investigate relationship between the interest charged on 91 day T-bill and the cost of credit among commercial banks. The findings are presented in Table 4.4.

Table 4.4: Interest on T Bills and the Cost of Credit

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	9720.333 ^a	9792	.00694
Likelihood Ratio	1081.374	9792	1.000
Linear-by-Linear Association	48.341	1	.000
N of Valid Cases	132		

From Table 4.4, the Chi Square value was indicated by 9720.33 with p value of 0.00694. Since the significance value is less than 0.05, this indicates that a statistically significant association exists between the interest charged on T-bills and the cost of credit among commercial banks. This therefore implies that short term interest on T-bills influences the cost of credit among commercial banks in Kenya.

4.3.4 Annual Central Bank Rate and the Cost of Credit

The study sought further to establish relationship between annual central bank rate and the cost of credit among lending institutions. Results are well illustrated in Table 4.5.

Table 4.5: Annual Central Bank Rate and the Cost of Credit

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2706.000 ^a	2652	.0228
Likelihood Ratio	569.661	2652	1.000
Linear-by-Linear Association	51.410	1	.000
N of Valid Cases	132		

From Table 4.5, the Chi Square value is established as 2706 with p value of 0.0288. As the p value is less than 0.05, this implies statistical significance of the variables. This further indicates that annual central bank rate influences the cost of credit among commercial banks in Kenya.

4.3.5 Credit Reference Bureau Information and the Cost of Loans

The extent to which the CRB affects the cost of loans in the country were examined and the findings were as shown in the Table 4.6:

Table 4.6: Credit Reference Bureau Information and the Cost of Credit

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	640.786a	612	.0203
Likelihood Ratio	358.981	612	1.000
Linear-by-Linear Association	15.591	1	.000
N of Valid Cases	132		

From Table 4.6, the Chi Square value was 640.786 with a p value of 0.0203. This indicates statistical significance association exists between the CRB information and the cost of borrowing among commercial banks. CRB facilitates information sharing among commercial bank which goes along towards the reduction in the cost of credit among commercial banks in Kenya.

CHAPTER FIVE

SUMMAR, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

Here is the presentation of the summary, conclusion of section as per research results and recommendations. There is also a recommendation for further research that opens way for future scholars, researchers and academicians.

5.2 Summary of the Findings

This section gives a brief summary on the findings of the study on each of the variables.

5.2.1 Annual Inflation

The findings of the study indicated that the annual inflation had a minimum value of 1.85%, with a maximum value of 19.72%. The mean was 8.3026% with standard deviation 4.751%. The study further revealed that the Chi square between inflation and the cost of credit among commercial banks was 12419 with significance values of 0.00561. The results indicate that there is statistically significant association between inflation and the Cost of credits among commercial banks in Kenya.

5.2.2 Interest on Deposits

The study found out that the minimum value of the interest on deposits by commercial banks in Kenya was 3.10% with a maximum of 8.21%, the mean was 5.28% with standard deviation of 1.146%. The study also established that the Chi square value was

9342.67 with a p value of 0.0327. This implies that statistically significant association exists between the interest charged on deposits and credit cost.

5.2.3 Interest on T-bills

The findings of the interest on 91 days T-Bill indicated that the minimum value was 2.17%, with a maximum value of 21.65%, the mean was 7.3095% with standard deviation of 3.225%. The study further revealed that the Chi Square value was indicated by 9720.33 with significance values of 0.00694. Since the significance values is less than 0.05, which signifies a significant association existence between the interest charged on T-bills and the cost of credit among commercial banks.

5.2.4 Annual Central Bank Rate

Findings of annual CBR indicated that maximum value was 18% with a minimum value of 6%, the mean was 8.917% with standard deviation of 2.41760. The study further established that the Chi Square value is established as 2706 with p value of 0.0288. As the p value is less than 0.05, this implies statistical significance of the variables

5.2.5 Credit Reference Bureau access

The findings of the credit reference bureau had a minimum value of 0.0 credit reports with maximum value of 503484 reports; the mean was 86381 reports with standard deviation of 141836 reports. The study also indicated that the Chi Square value was 640.786 with significance value of 0.0203. This signifies the existence of a significance association between CRB information and credit cost among commercial banks. From the findings above, the researcher therefore rejects the null hypothesis and accepts the

alternative hypothesis that access to credit reference bureau has an effect on the cost of credit.

5.2.6 Cost of Credit

Costs of loans indicated that a minimum value of 10.21% with a maximum value of 20.20%, the mean was 14.8091 with a deviation of 2.266%.

5.3 Conclusion

Statistically significant association exists between annual inflation and the cost of borrowing among financial institutions in Kenya. Interest charged on deposits affect cost borrowing among lending institutions in Kenya. Interests on T-bills also affect the cost of borrowing among lending institutions in Kenya. Statistical association was established between annual CBR and cost of borrowing among lending institutions in Kenya. Furthermore, CRB affects the cost of borrowing among lending institutions in Kenya.

5.4 Recommendations of the Study

Central Bank of Kenya should put in place sound monetary and fiscal policies that stabilize inflationary pressure within the country. This will keep the inflation rates stable and therefore making the cost of credit affordable.

The study also recommends that lending institutions in Kenya should offer affordable interest rates on customer deposits. There should be minimal discrepancies between interest charged on deposits and interest on loans advanced to customers by lending institutions in Kenya.

Central Bank of Kenya should supervise and regulate the interest on T-bills charged by lending institutions on short term credit.

The study further recommends that the national treasury in connection with the central bank should fully operationalize the credit reference bureau mechanisms. Sound policies ought to be set in place to guide the functioning of the CRB in Kenya.

5.5 Limitations of the Study

This study relied on secondary data collected for other purposes and influenced by other variables which were not part of the study variables. This may have negatively influenced the findings especially in creating variations from previous study findings. The study was limited in period which as CRB did not exist before 2008. This therefore limited the study of data relating to period before the introduction of CRB.

Over the study period, massive changes have taken place in Kenya which may have affected the lending rates. However, these changes were not factored in the study hence limiting the application of the study findings to all seasons.

During the study, the Central Bank of Kenya introduced capping of interest rates, this has not been covered by this study and has significant impact on pricing of credit facilities.

5.6 Recommendations for Further Research

The study set to establish the effect of CRB on the cost of borrowing among lending institutions in Kenya. Future studies should cover other factors determining the cost of credit among commercial banks apart from the CRB. The data for the study was secondary. The study covered annual inflation, interest on deposits, interest on T-bills,

annual CBK rate and CRB information; future studies should cover more macro economic variables that include GDP, GNP, economic growth, exchange rates and the impact of introduction of capping of the interest rates by CBK in September 2016

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APPENDICES

Appendix One: List of Commercial Banks in Kenya

1. KCB Bank
2. Cooperative Bank
3. Equity Bank
4. Standard Chartered Bank
5. Barclays Bank
6. CFC Stanbic Bank
7. Commercial Bank of Africa
8. Diamond Trust Bank
9. NIC Bank
10. Investment & Mortgages
11. National Bank
12. Chase Bank
13. Citibank
14. Bank of Africa
15. Baroda Bank
16. Prime Bank
17. Housing Finance
18. Family Bank
19. Imperial Bank
20. Ecobank Bank
21. India Bank
22. Guaranty Trust Bank (formerly Fina)
23. ABC Bank

24. Consolidated Bank
25. Gulf African Bank
26. Development Bank of Kenya
27. Equatorial Bank
28. Victoria Bank
29. Giro Bank
30. K-Rep Bank
31. Guardian Bank
32. Fidelity Bank
33. First Community Bank
34. Habib AG Zurich Bank
35. Transnational Bank
36. Habib Bank
37. Paramount Bank
38. Credit Bank
39. Jamii Bora Bank
40. Oriental Bank
41. Middle East Bank
42. UBA Bank
43. Dubai Bank

Source: Soft Kenya (2016)