

**EFFECT OF CREDIT RISK MANAGEMENT ON THE FINANCIAL
PERFORMANCE OF THE COMMERCIAL BANKS LISTED AT
THE NAIROBI SECURITIES EXCHANGE**

BY

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DECLARATION

I declare that this research work is my own work and has not been submitted for any degree or examination in any other institution.

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D61/87401/2016

This research paper has been submitted for examination with my approval as the University Supervisor

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DEDICATION

This research project is dedicated to my family

ACKNOWLEDGEMENT

It is my wish to acknowledge God almighty for giving life and chance to come this far. I also like to show my appreciation to my supervisor Dr. Duncan Ochieng Elly for his assistance throughout the whole research writing process, also the contribution and encouragements made by my family members especially for their caring support and all those who made this research project a success.

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ABSTRACT

Credit creation among the commercial banks plays a critical role in income generation. However, this activity is characterized by a number of risks which are a threat to both the lenders and the borrowers. The paper tried to establish the impact of the management of credit risks on the financial performance of the commercial banks quoted under the NSE of Kenya. Cross sectional descriptive survey was used in this paper. The paper employed a census method where all the eleven quoted commercial banks were studied. The paper used secondary data from the Audited Financial Statements of the banks, those listed at the Nairobi Securities Exchange and financial performance data from CBK annual banking survey reports. The collected data was analyzed by use of the Statistical Package for Social Sciences. Analysis of data was on the basis of the mean and the F test statistic was computed at 5% significance level. To check for the strength of the model and the impact of the management credit risks on financial performance of the commercial banks quoted with the NSE, the paper did an Analysis of Variance. From the regression model, the paper established that there were credit risk management variables influencing the financial performance of commercial banks quoted under the NSE namely; interest rates, capital adequacy and liquidity. They affected it positively. The paper established that the six independent variables that were studied which included leverage, inflation rate, firm size, liquidity, capital adequacy and interest rate explain 13.0% of variability on fiscal performance of the commercial banks quoted under the NSE. The paper therefore concludes that the management of credit risks affects the financial performance of the commercial banks quoted under the Nairobi securities exchange. The conclusions are in accordance to the Arbitrage theory which posits that there is positive connection linking the risk of assets with their expected returns. This implies credit risk is invertible among the commercial banks in Kenya; therefore necessary strategies need to be put in place to help in the mitigation of this kind of risk so as to improve the financial performance. This study recommends the adoption of credit risk management because it focuses on the risk minimization which in turn improves the financial performance. This paper makes recommendations that a study be done to evaluate how the management of credit risks will impact the financial performance of the Kenyan non- quoted banks.

LIST OF ABBREVIATIONS

APT Arbitrage Pricing Theory

CBK Central Bank of Kenya

CMA Capital markets Authority

CRM Credit Risk Management

ROA Return on Assets

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Credit creation is the fundamental income source for the banks. However, this activity is characterized by numerous risks to both the borrower and the lender. At the point when banks issue loans, there is a risk of borrower default. At the point when banks gather deposits and loan them to different customers, they put customers' reserve funds at risk. The default of handful borrowers can result into huge losses as well. Commercial banks must ensure that the risks they are exposed to are mitigated since they affect their financial performance. Any bank losses can prompt huge budgetary trouble influencing the entire economy (Bessis, 2003).

Relating to the modern portfolio theory by Markowitz (1952), investors can combine various asset groups so as to achieve the maximum expected return given a certain level of portfolio risk. It focuses on the risk minimization for different types of returns and it is achieved by correct identification of proportions of investment funds in different classes of assets. Credit scoring model asserts that, any loaning choice ought to dependably be preceded by itemized investigation of risks and the result of examination ought to be taken as a guide for the credit choice (Huang, 2001). According to arbitrage pricing theory, there is a positive connection linking risk of the asset to their expected returns.

Credit risk is invertible among the commercial banks in Kenya, therefore necessary strategies need to be put in place to help in the mitigation of this kind of risk so as to advance the financial performance. Lack of credit assessment has been cited as the major cause of credit risk in Kenya. Majority of commercial banks in Kenya that have been

affected by credit risk adversely have reported poor financial results due to cash flow challenges and sometime this has led to receiverships. However, commercial banks that have put in place strong mechanisms to deal with the credit risk have reported impressive financial results which are key to the survival of the commercial banks in Kenya (CBK, 2017).

1.1.1 Credit Risk Management

The management of credit risk implies various practices which are employed to mitigate the losses by gaining an understanding of the capital adequacy of the banks (Kane & Rice, 1998). Credit risk also known as default risk is the risk that the guaranteed loan and securities cash flows held by banks is not fully settled by the borrowers. In other words, credit risk is the vulnerability related with borrowers' credit reimbursements. When borrowers' benefit value surpass their obligation they reimburse loans yet when borrowers' benefit value are not as much as loan qualities, they don't reimburse and they could in this manner practice their choice to default (Sinkey, 2002).

Credit risk emerges from the likelihood of losses related with decrease of Credit Quality of borrower's or counterparties. Credit risk alludes to the risk that there is a likelihood of default by the borrower. The risk is fundamentally to the bank and incorporates the principal that was lost and the interest. Risk management system is essential for commercial banks since they directly determine their performance and their eventual values (CBK, 2017).

To limit credit risks, commercial banks are urged to utilize the "know your client" guidelines. Information of the Customer implies that Credit will be allowed just to those

Customers' whom the Commercial Bank completely comprehends their business activities. Learning of the Customer must reach out past information identifying with the Customer alone and cover all perspectives which can impact credit hazard, both subjective and quantitative in nature. The Central Bank of Kenya has provided risk management plan to guide the banks and make a working structure befitting universal prescribed procedures which expect banks to have a completely independent credit risk management in charge of capital alteration and arrangement for heightening non-performing advances (CBK, 2017). Credit risk management was measured by inflation rates, leverage and interest rates.

1.1.2 Financial Performance

Pandey (2008) defined financial performance as the process of measuring how efficiently an entity has utilized its resources. Profitability ratios, liquidity ratios and gearing ratios are the primary indicators of economic growth. The profitability ratios is a measure of how effectively a business entity has utilized its resources, liquidity ratios gives the capability of a business entity to meet short term objectives and the gearing ratios indicates the extent of debt employment by the companies. The business entity financial performance will depend on the collection of reports detailing financial position of a specified period of time.

Any business entity is in the world of business to prosper to greater heights. Prosperity of any entity normally relates to its performance in monetary terms. Business entities can gauge the survival of the businesses by analyzing their overall output in monetary terms to determine how they have effectively and efficiently employed their resources to maximize the returns for the shareholders. For the business entities to know their worth in

terms of growth, they can employ either modern performance measures or traditional measures to measure the performance (Ochieng, 2012).

The financial performance measures the commercial banks' policies in fiscal terms operations. These outcomes are revealed in the commercial banks' profitability ratios, liquidity ratios and gearing measures. Majority of business entities have always used profit as the basis for business prosperity. However, the real determinant of business growth how efficiently the business entities have been in the employment of the capital in the business. Due to the shortcomings in the traditional approaches, the experts in the finance field devised the profitability ratios to measure the financial performance (Wood, 1998).

1.1.3 Credit Risk Management Financial Performance

The management of credit risks is aimed at mitigating the financial losses caused by default risk(Lymon&Carles, 1978). Some theorists strongly believe that credit risk management determines the survival and the profitably of the commercial banks since it identifies the potential factors likely to negatively affect them and come up with the appropriate procedures of dealing with them. One such procedure is the extensive credit analysis which aids in assessing the credit worthiness of the potential borrowers which will reduce the default risk (Lymon&Carles, 1978).

The credit scoring model acts as a guide on the evaluation of the borrowers as one of the ways of credit risk management procedures which significantly affects the financial performance. Any loaning choice ought to dependably be preceded by itemized investigation of risks and the result of examination ought to be taken as a guide for the

credit choice a procedure of making decisions which includes limiting losses from both unpaid debts and expenses of debt risk while expanding the value of credit deals which will positively affect the financial performance (Huang, 2001). The modern portfolio theory was proposed by Markowitz (1952) supports the association linking the management of credit risks with financial performance by arguing that investors can combine different portfolios in order to achieve the maximum expected return given a certain level of portfolio risk which will improve the financial performance.

According to Omondi (2016), on the effect of the management of credit risks on performance of investment firms in Kenya. He concluded that the management of credit risks had a positive considerable influence on the performance of the investment companies. Vamishan (2015) undertook a research on risk to income or capital because of borrowers' late and delinquency of advance commitments in Indian banks. He inferred that credit risk is viewed as the most deadly of the risks firms confront and it significantly affected their income. Kauki (2013) in his study affirmed that the management of credit risks considerably affected the financial performance of financial institutions.

1.1.4 Commercial Banks Listed at Nairobi Securities Exchange

The total number of commercial banks in Kenya as at January 2018 stands at 42. However, a total of 11 commercial banks are listed at the NSE. The CBK is the regulatory body of all the financial institutions but Capital Market Authority also oversees the operations of the quoted commercial banks. All banks are obligated to observe particular prudential guidelines for example the least emergency cash and liquidity set by the central bank. The new development in banking sector include credit information sharing systems

which has stirred improved efficiency in the banks and enhanced competition which has positively improved their financial performance(CBK, 2017).

The banking industry in Kenya has sustained an increase of its deposits, assets, productivity and the various products it offers. Credit risk management in the banking sector has gave to its growth and the increased market share. These strategies characterize who should get credit and the securities included. Furthermore it protects its back through protection. When this is accomplished the banks money related execution is relied upon to go up(CBK, 2017).

1.2 Research Problem

Giving credit to the individuals is a critical action to commercial banks hence the significance of credit risk management in these organizations. When credit risk is ineffectively managed, it is a big disappointment to the commercial banks(McMenamin, 2009).Efficient credit risk management is the essential component since it improves the financial performance of the commercial banks, loan quality is also controlled by sufficient framework for managing risks which has the potential of increasing the profitability of the commercial banks (Hempel et. al., 2004).

Commercial banks in Kenya have been utilizing the "six Cs" of credit as an underlying screening and risk evaluation counsel. These Cs are: the capacity, capital, character, collateral, conditions and control which have greatly increased the returns for those commercial banks which have fully adopted and implemented the criteria. However, some commercial banks in Kenya's returns have declined as a result of credit risk. This calls for a stronger credit risk management mechanisms which are geared towards the

improvement of their financial performance (CBK, 2017). Several studies have been done on the management of credit risks with financial performance. Aden and Brooke (2014) did a paper on the impact of the management of credit risks on the profitability of banks in UK from 2010 to 2013. They concluded that the management of credit risks significantly affected the financial performance of the financial institutions, a paper by Kamar (2015) analyzed the effect of management of credit risks on the value of firms in India concluded that the management of credit risks had no significant impact on the firms' value. Lin (2015) made conclusions that the management credit risks had no considerable influence on firms's performance.

In Kenya, Mutisya and Otieno (2011) conducted a research on the effect of the management of credit risks on the profitability of the commercial banks in Kenya. Omondi (2016) concluded that the management of credit risk had a positive considerable influence on performance of investment firms. Mutua (2014) conducted a research on the effect of management of credit risks on the value of Kenyan companies and concluded that the management of credit risks had a significant effect on the value of Kenyan firms. Due to the significance of credit risk management to the commercial banks, there is need for extensive study on this area bearing in mind the limitations from the previous studies which included shorter period of study and limited number of study variables. Therefore, the current study sought to answer this study question; what is the impact of the management of credit risks on the financial performance of the commercial banks quoted under the NSE of Kenya?

1.3 Research Objective

The main goal of this research was to investigate the impact of credit risk management on the financial performance of the commercial banks quoted under the NSE of Kenya.

1.4 Value of the Study

This paper is significant to the researchers to conduct academic research. It acts as a source of empirical literature and acts as a ground in conducting further studies in credit risk management and financial performance.

Investors benefit by understanding the variables that impact the profits on their ventures, in this case the commercial banks. Credit risk has the potential effect of reducing their returns which affects the amount of dividends to be paid by the management of the commercial banks negatively.

Commercial banks are able to understand more on the credit risk management which should be incorporated in their strategies to mitigate exposure to credit risks. These discoveries are utilized as reference material by future specialists keen on additionally looking into alternative ways of dealing with credit risks.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The part covers the synopsis of chapter which include, theories and empirical works on credit risk management, determinants of the financial performance, conceptual framework and ends with the summary of literature review.

2.2 Theoretical Review

The following theories are related to credit risk management and they include; arbitrage pricing theory (Ross, 1977), credit scoring model (Huang, 2001) and modern portfolio theory (Markowitz, 1952).

2.2.1 Arbitrage Pricing Theory

This theory of arbitrage pricing was discussed by Ross (1977). According to this theory, the positive relationship exists between the risk of the asset and their expected returns. The arbitrage pricing theory was a modification of the capital asset pricing model and this model links returns to several variables in a linear form. The arbitrage pricing model is more robust than capital asset pricing model because it is easily extended to a multi period framework. The arbitrage pricing theory is founded on the assumption that investors in any market will always prefer more wealth to less wealth with certainty.

According to APT, despite the fact that a variety of forces can influence the return of firms, the effects eventually cancels out only on the formation of a portfolio which is well diversified. The arbitrage pricing model employs several factors in its multi variable

model and each variable in the model is represented by a beta coefficient which measures the risk of each variable. The arbitrage pricing theory is comprised of the diversifiable risks and non-diversifiable risks in the market. The non-diversifiable risks are as a result of macroeconomic variables which cannot be diversified in the market (Ross, 1977).

2.2.2 Credit Scoring Model

Huang (2001) posits that Credit scoring models likewise develop some portion of the structure utilized by loaning organizations to concede credit to customers. For corporate and business borrowers, these models by and large have subjective and quantitative areas laying out different parts of the risk including, however not restricted to, working knowledge, management ability, resource quality, and leverage and liquidity proportions, respectively. When this data has been completely assessed by credit officers and credit boards, the bank gives the assets subject to the terms and conditions displayed inside the conformity.

Any loaning choice ought to dependably be preceded by itemized investigation of risks and the result of examination ought to be taken as a guide for the credit choice. As there is a critical correlation between FICO assessments and default frequencies, any inference of likelihood from such recorded information can be depended upon. The model may comprise of least of six evaluations for performing and two evaluations for non performing resources. The circulation of rating of advantages ought to be with the end goal that not over 30% of the loans are assembled under one rating (Saunders & Cornett, 2007).

2.2.3 Modern Portfolio Theory

The hypothesis was proposed by Markowitz (1952). This theory explains how investors can combine different portfolios in order to achieve the maximum Expected Return given a certain level of portfolio risk. It focuses on the risk minimization for different types of returns and it is achieved by correct identification of proportions of investment funds in different classes of assets. Investors can either go for a high expected return or a low risk portfolio with low returns. According to Hicks (1985), risk is positively related with the expected return for any financial asset.

This theory analyses how the risk which is undiversifiable relates or interacts with the Expected Return for a certain financial asset. Undiversifiable risk is as a result of the macroeconomic variables. This theory supports the diversified portfolio because it will minimize the specific risk which is unsystematic in nature which are caused by the microeconomic variables. On the other hand a diversified portfolio cannot eliminate the risks which are systematic in nature since they cannot be diversified and are caused by macroeconomic variables. Commercial banks in Kenya are faced with various risks, for example the liquidity risk. In order to eliminate these risks, commercial banks should give a priority to a diversified portfolio because by investing in a diversified portfolio the risk is minimized and this will eventually improve the financial performance (Markowitz, 1952).

2.3 Determinants of Financial Performance

High returns and minimal costs are the major objectives of the business organizations, this is achieved by designing good corporate strategies aimed at improving the financial

performance. Financial performance plays a vital role in realizing this objective. It will test the strength and weakness of the company in monetary terms. The major determinants of financial performance are; Management efficiency, leverage, liquidity, external factors and company size.

2.3. 1 Management Efficiency

According to Johnson (2005), Management efficiency signifies a situation where by the resources are prudently applied to maximize the output levels. Management efficiency aims at the reduction of the use of available resources by maximizing the returns for example stock waste to improve efficiency and sharing of duties for example chief executive officer can equally act as the managing director. Operational efficiency deals with the management of the operating expenses. The management should ensure resources are deployed efficiently, operating costs are minimized and profit is maximized. Management efficiency is measured by proxy of management ratio which is the measure of the operating expenses to total assets of an entity. The higher the proxy management ratio, the greater the financial performance, management efficiency therefore improves the financial performance of the commercial banks.

2.3.2 Liquidity

Liquidity measures the extent to which assets are traded in the market with no effect on the price of the asset. The livelihood of any business entity depends entirely on liquidity. Liquidity measures the extent to which assets are traded in the market with no effect on the price of the assets (Gardner, 1986). The livelihood of commercial banks depends entirely on liquidity. It is the responsibility of the management to ensure that the finances

are available on demand. Therefore, the management has a duty to address the following questions. How much liquid cash should be maintained, at what time will the institution be in need of this cash, how economic is it to maintain that level of liquid cash and how safe is this cash at the institution cash safe or when cash is in transit.

Theories have been developed to solve these questions. To an extent, they have succeeded. Yet, in the current age of technological advancement and the dynamic economic trends, we too have to come up with better counter measures, which will accommodate these emerging issues in the corporate world. When a commercial bank has enough liquid assets, it is expected that the financial performance is better compared to one with inadequate liquid assets because the latter cannot manage to realize cash when in need to cater for the obligations and is thus exposed to liquidity risks. Therefore, liquidity has a direct influence on the financial performance (Gibbs, 2007).

2.3.3Leverage

Miller (1958) defines leverage as that fraction of leverage in the composition of capital of the firm. A highly geared commercial bank has more debt than equity in its capital composition. Leverage can be determined by the debt ratio. The capital mix can affect the ultimate value of the commercial bank either negatively or positively. Generally, the use of debts in capital structure increases leverage because of the interest tax shield. The use of debts in the capital composition does not vary the risk perceptions of the investors therefore the cost of debt remains constant. High amounts of debt normally attract high-interest rate which can adversely affect the operations of a business.

2.3.4 Macroeconomic Factors

The growth in the gross domestic product increases the revenues generated by the companies. When companies generate high revenue it implies that the financial performance is sound and better. However, the decline in the gross domestic product implies that the revenues are minimal and this adversely affects the financial performance. Inflation on the other hand affects the financial performance negatively or positively, high inflation rates reduce income level, which in turn influences negatively the company returns, when the inflation rates are minimal. The purchasing power is high hence the growth in revenue this will have a positive impact on fiscal performance. The interest rates is also a major factor affecting the financial performance. When the interest rates are very high, the profits of the companies are low because high interest rates attract high default rates which negatively affect the income but when the interest rates are low the revenues are maximized due to low default rates (Nielsen, 1974).

2.4 Empirical Review

Various empirical studies reviewed on the impact of the management of credit risk on the financial performance of various commercial banks have presented varied conclusions. Early empirical literature which aimed to institute the effect of credit risk management on fiscal performance proved that the management of credit risks takes a key task with regard to fiscal performance. However, other empirical works reviewed showed that the management of credit risks was not significant on the financial performance.

Aden and Brooke (2014) undertook a research on the influence of the management of credit risks on the profitability of financial institutions in United Kingdom from 2010 to

2013. The population of the study was 345 financial institutions, 115 financial institutions were analyzed. CRM was measured by management efficiency and liquidity management while financial performance was measured by ROA. Secondary data was utilized in this paper and was analyzed by inferential and descriptive statistics. They made conclusions that credit risk management considerably affected the fiscal performance of the financial institutions.

Vamishan (2015) did a study on risk to income or capital because of borrowers' late and delinquency of advance commitments in Indian banks. His goal was to evaluate whether risk of no repayment will result to credit default. He found out that Credit risk emerges in view of the likelihood that the normal cash flows from advances and securities held, probably won't be fully repaid. He inferred that credit risk is viewed as the most deadly of the risks firms confront and it significantly affected the income.

Lin (2015) wrote a paper on the influence of management of credit risks on the performance of firms in Germany from 2010 to 2014. The study population was 500 firms, the sample of the study was 200 firms. CRM was measured by management efficiency, firm size and liquidity management while financial performance was measured by ROA. Secondary data was utilized in the paper and was analyzed by inferential and descriptive statistics. He made conclusion that the management of credit risks had no significant influence on the performance of the firms.

Kamar (2015) wrote a paper on the influence of the management of credit risks on the value of the firms in India. The firms were drawn from various sectors which included insurance, banking and transportation. A total population of 634 firms were identified for

the study with a sample size of 312 firms. The paper used both primary and secondary data in the analysis. Linear regression model was also employed in the study. He made conclusion that the management of credit risks had no considerable influence on the value of the firm's performance of the firms.

Mutisya(2011) did a paper on the influence of credit risk management on the profitability of the commercial banks in Kenya. The principle goal was to see whether the administration of the risks identified with that credit influences the productivity of the commercial banks. 15 out of 47 commercial banks were randomly selected and data captured through questionnaires. They found that credit risk administration in commercial banks has turned out to be more vital especially during economic crisis. The study concluded that CRM had a positive influence on the profitability.

Mutua (2014) conducted a research on the influence of the management of credit risks on the firm's value in Kenya. A total population of 64 quoted companies under the NSE of Kenya was selected as the population of his research. His paper used both secondary and primary data in the analysis. Linear regression model was also employed in the study. He made conclusions that the management of credit risks had a significant influence on the value of firms in Kenya.

Kauki (2013) did a paper on the influence of the management of credit risks on the profitability of the Kenyan financial institutions from 2010 to 2013. The population of the paper was 115 financial institutions, 45 financial institutions were analyzed. Secondary data was utilized in the paper and was analyzed by inferential and descriptive statistics.

He made conclusions that credit risk management considerably affected fiscal performance of financial institutions.

Omondi (2016) did a paper on the influence of the management of credit risks on performance of Kenyan investment firms. The paper population was 34 investment firms, a sample of 16 companies was selected for this paper. The paper utilized the secondary data which was got from the financial records of the investment companies from 2010 to 2015. He made conclusions that the management credit risks had a positive significant impact on performance of investment firms.

2.5 Conceptual Framework

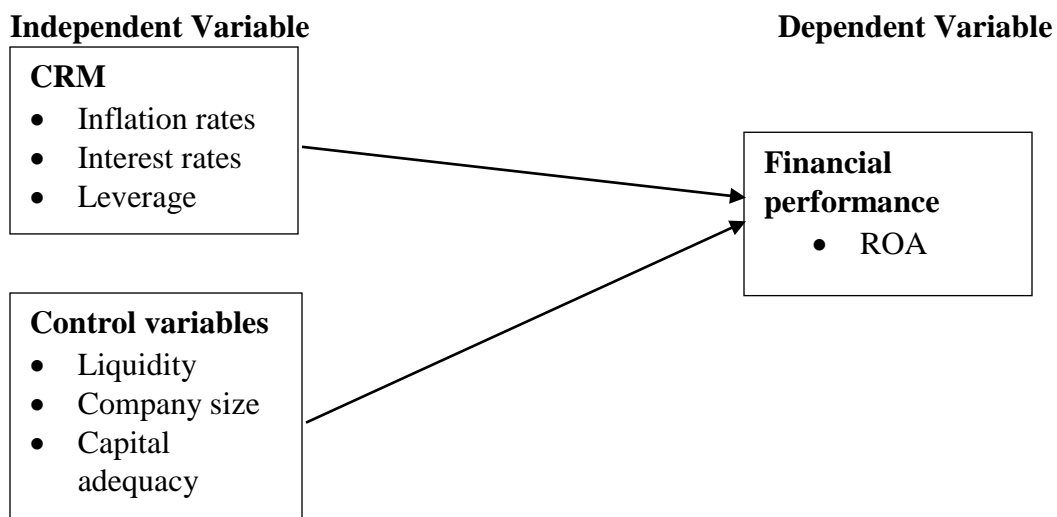


Figure 2.1: Conceptual Framework

2.6 Summary of Literature Review

The literature review entails the theories that were discussed and they include, arbitrage pricing theory (Ross, 1977), credit scoring model (Huang, 2001) and modern portfolio theory (Markowitz, 1952). The determinants of financial performance were also

highlighted and they include, management efficiency, leverage, liquidity, external factors and company size. Different studies on credit risk management were also reviewed and they include; Omondi (2016), Kauki (2013), Mutua (2014), Mutisya and Otieno (2011), Kamar (2015), Aden and Brooke (2014), Vamishan (2015) and Lin (2015). The conceptual framework was also discussed in this chapter. From the literature reviewed, the period of the study was short and the choice of study variables was limited in some studies. Therefore, this research sought to address the above gaps in conducting this paper on the impact of the management of credit risks on the financial performance of Kenyan listed commercial banks.

Table 2.1: Summary of the Literature

Author	Focus of Study	Methodology	Findings	Research Gaps
Omondi (2016)	Effect of the management of credit risk on performance of Kenyan investment firms.	Linear regression	The management of credit risks had a positive significant influence on the performance of the investment firms.	The research period was short.
Mutua (2014)	Effect of macro-economic variables on stock market performance in Kenya.	Linear regression analysis utilized	Credit risk management had a significant effect on the value of the firms in Kenya	Short study period
Kauki (2013)	Effect of the management of credit risks on the profitability of financial institutions in Kenya.	Inferential and descriptive statistics	Credit risk management significantly impact the financial performance of the financial institutions	There were no models that were applied.
Mutisya and Otieno (2011)	Impact of credit risk management on the profitability of the commercial banks in Kenya.	Linear Regression model utilized.	macroeconomic variables significantly influence stock market performance in Kenya	Study period was limited.
Kamar	impact of the	Linear	The management of	Shorter

Author	Focus of Study	Methodology	Findings	Research Gaps
(2015)	management of credit risks on the value of the firms in India	regression model	credit risk management had no significant effect on the value of the firms'	time period used.
Aden and Brooke (2014)	Relationship between stock market returns in Pakistan and selected macro-economic factors	Inferential and descriptive statistics	Credit risk management significantly affected the financial performance of the financial institutions	Criteria for firm selection were not elaborated.
Vamishan (2015)	Risk to income or capital because of borrowers' late and delinquency of advance commitments in Indian banks	No model specified	credit risk is viewed as the most deadly of the risks firms confront and it significantly affected the income	No model specified
Lin (2015)	Influence of the management of credit risk on the performance of firms in Germany	Inferential and descriptive statistics.	Credit risk management insignificantly affect the performance of the firms.	Shorter time period used.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

The section provides study methods that were applied in doing this paper. They include the study design, population of the study, method of collecting data and the procedure through which data was analyzed.

3.2 Research Design

The paper utilized descriptive study design as it is pivotal in the clarification of the problem of the paper (Mugenda&Mugenda, 2003). The descriptive study design was suitable since it enabled the obtaining of information useful for analysis. This study utilizes correlation analysis which investigates the relationships that exists between different variables.

3.3 Population

Mugenda (2003) defines population as the whole set of people or items from that the study seeks to take a broad view of its findings. The population of study comprised all the eleven commercial banks listed at the NSE as at December 2017 (CBK, 2017).

3.4 Data Collection

This paper relied on the secondary data from the published reports and published financial statements of the commercial banks from the central bank of Kenya and from the respective websites of the commercial banks for the period 2013 to 2017 because the secondary data was readily available. Data that was collected included total assets, net

income, lending rates, inflation rates, total liabilities, total loans, total capital and total customer deposit.

3.5 Diagnostic Tests

The diagnostic tests that were completed on the data included; Kurtosis and Skewness of the dispersion of data which tested for normality, multicollinearity was tested by variance inflation factor and correlation coefficient, heteroscedasticity was tested by the weighted generalized least square to establish the relationship.

3.6 Data Analysis

Data analysis entails the necessary procedures employed in bringing a meaning plus an order to the data to be collected. The analysis of secondary data was by use of the descriptive statistics in terms of the mean values. Skewness as well as Kurtosis was considered to determine the validity of data quality. The following linear regression model was used:

$$Y = \beta_0 + \beta_1x_1 + \beta_2x_2 + \beta_3x_3 + \beta_4x_4 + \beta_5x_5 + \beta_6x_6 + e$$

Where;

Y= is the financial performance as determined by the return on assets.

β_0 is the free term of the equation, $\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ and β_6 are the coefficients of independent variables.

x_1 = Company size as gauged by the natural logarithm of the total assets

x_2 = Leverage as measured by debt ratio

x_3 = Interest rates as measured by lending rates

x_4 = Inflation rates

x_5 = Liquidity as measured by the ratio of total loans to total customer deposits

= capital sufficiency as gauged by the ratio of total capital to total assets

e = the error term

3.7 Test of significance

An F-test at 5% significance level was conducted to establish the model's strength, and the impact of the management of credit risks on financial performance of the commercial banks quoted under the NSE of Kenya.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND INTERPRETATION

4.1 Introduction

This section provides an analysis of the data obtained. In section 4.2 data was analyzed in terms of descriptive statistics and in section 4.3 data was analyzed in terms of inferential statistics which included correlation analysis, regression analysis and the analysis of the variance and section 4.5 presents discussions of the results.

4.2 Descriptive Statistics

The independent variables analyzed here included the leverage, inflation rate, firm size liquidity, interest rate, capital adequacy and return on assets as the dependent variable. The maximum values, standard deviations, minimum values and the means of the variables under study were tabulated as presented below.

Table 4.1 Descriptive Statistics Analysis

	N	Minimum	Maximum	Mean	Std. Deviation
Leverage	55	0.19	1.93	.6127	0.32346
Inflation	55	6.12	7.75	6.6410	0.60410
Firm Size	55	16.79	20.16	18.7747	0.82320
Liquidity	55	0.01	1.82	0.5474	0.47575
Capital Adequacy	55	0.01	0.94	0.5215	0.25483
ROA	55	-0.01	0.52	0.0471	0.08244
Interest Rate	55	14.00	23.65	19.2478	2.97540

From the findings, the minimum number of leverage was 0.19, the maximum number was 1.93, the mean was 0.613 and the standard deviation was 0.323 which indicated small variation in the leverage. The minimum number of inflation rate was 6.12, the maximum

number was 7.75, the mean was 6.641 and the standard deviation was 0.60410 which show the small variations. The minimum number of firm size was 16.79 the maximum number was 20.16, the mean was 18.775 and the standard deviation was 0.823 which shows small variations. The minimum number of liquidity was 0.01, the maximum number 1.82 the mean was 0.547 and the standard deviation was 0.475 which shows small variations. The minimum number of capital adequacy was 0.01, the maximum number was 0.94. The mean was 0.5215 and the standard deviation was 0.255 which shows small variation. The minimum number of return on assets was -0.01, the maximum number was 0.52, the mean was 0.0471 and the standard deviation was 0.082 shows small variations.

4.3 Diagnostic Statistics

The diagnostic tests for the secondary data normally are shown by the following histograms.

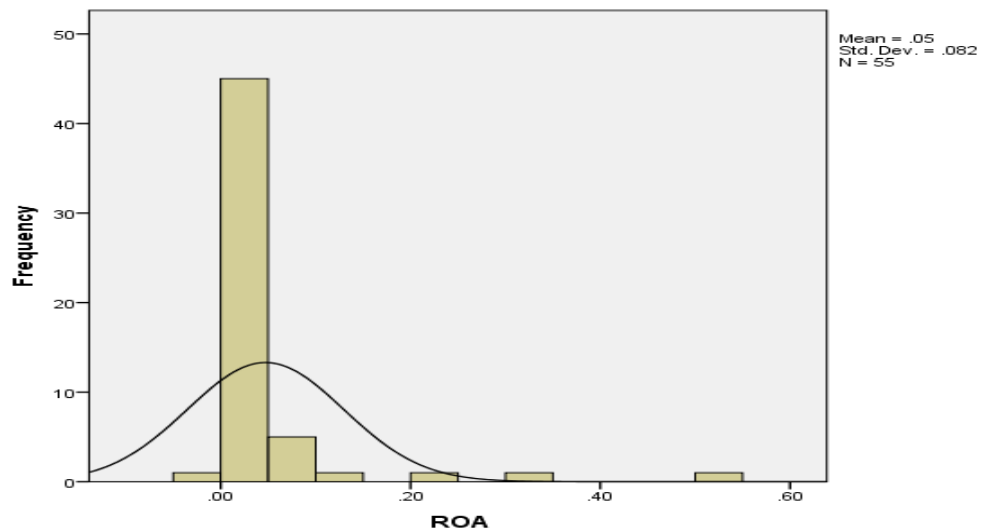


Figure 4.1: Histogram

4.4 Correlation Analysis

Table 4.2: Correlation Matrix

	Leverage	Inflation	Firm Size	Liquidity	Capital adequacy	Interest rate	ROA
Leverage	1						
Inflation	-.049	1					
Firm Size	-.216	-.222	1				
Liquidity	-.075	.153	-.262	1			
Capital adequacy	-.157	-.833	0.032	-.096	1		
Interest rate	-.051	-.784	.269	-.089	.004	1	
ROA	-.100	-.039	-.329	.238	-.166	.039	1

*. Correlation is significant at the 0.05 level (2-tailed).

These findings of the correlation analysis above shows that a negative correlation exists between leverage and return on asset however the relationship is not significant. The correlation coefficient was -0.100 and the p-value was 0.468 which is greater than 0.05. The findings showed further that inflation rate is negatively related to financial performance. The correlation coefficient was -0.039 and significance value of 0.775. High inflation rates leads to low financial performance while low inflation rates leads to high financial performance. The size of the company is negatively linked to financial performance and significant since the p-value is 0.014 which is less than 0.05.

Liquidity is positively related to financial performance with a correlation coefficient of 0.238 and a significance of 0.081. Liquidity is invertible among the commercial banks in

Kenya, therefore necessary strategies need to be put in place to help in managing the liquidity of assets in order to improve the financial performance. Capital adequacy had a correlation coefficient of -0.166 implying a negative correlation. However, the correlation was not significant since the significance was 0.224 which is greater than 0.05. The depositor's money in the banking sector is not fully assured and therefore capital adequacy might relate with financial performance positively or negatively. Interest rate is positively linked to fiscal performance and the effect was not considerable since the correlation coefficient was 0.039 and the significance was 0.777. Investors monitor the changes in interest rates so as to determine when to make investment with an aim of increasing returns.

4.4.1 Regression Analysis

Table 4.3: Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0.476	0.227	0.130	0.07689

The value of the correlation coefficient from the table above is 0.476 which means that a weak positive connection exists between the study variables. The adjusted R square is 0.130 this means that 13% of the influence of the leverage, inflation rate, firm size, liquidity, capital adequacy and interest rate was explained by the model.

Table 4.4: Summary of One Way ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.083	6	0.014	2.345	0.043
	Residual	0.284	48	0.006		
	Total	0.367	54			

The results in table above shows the value of F statistic was 2.345 at 5% significance level and the statistic was significant, the P-value was 0.043 which is less than 0.05 implying that the whole model was significant.

Table 4.5: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	0.911	0.391		2.332	0.024
	leverage	-0.054	0.034	-0.211	-1.569	0.123
	inflation	-0.015	0.028	-0.113	-0.542	0.591
	Firm size	-0.039	0.014	-0.391	-2.779	0.008
	liquidity	0.024	0.023	0.139	1.042	0.303
	Capital adequacy	-0.071	0.042	-0.221	-1.705	0.095
	Interest rate	0.002	0.006	0.058	0.280	0.781

The findings of the regression analysis show that the leverage is inversely related to financial performance. It implies that any increase of unit in the leverage can lead to a reduction in the fiscal performance by 0.054. Leverage will lead to decrease in the financial performance. The inflation rates are negatively linked to the financial performance, this implies that increase in inflation rates would lead to a decrease in financial performance, firm's size is negatively correlated to the financial performance

which implies that an increase of unit in firm size would decrease in financial performance by 0.039 units. Liquidity is directly correlated to financial performance, which means that as the level of liquidity increases the financial performance will increase.

The standardized beta coefficient of leverage was -0.211 which means that leverage has a moderate effect on the financial performance. The standardized beta coefficient of inflation rate was -0.113 which implies that inflation rate has a weak effect on the financial performance, the standardized beta coefficient of firm size was -0.391 meaning a weak effect of company's size on fiscal performance. The beta coefficient of liquidity was 0.139 which implies a weak impact of liquidity on fiscal performance, the beta coefficient for capital adequacy was -0.221 which implies a moderate impact of capital adequacy on fiscal performance and finally the beta coefficient of interest rate was 0.058 which implies a weak impact of interest rate on fiscal performance.

4.5 Interpretation of the Findings

The results of the descriptive statistics shows that on average, the leverage recorded a steady increasing trend from 2013 to 2017. Leverage was highest in 2017 and the lowest in 2013. Capital adequacy, liquidity and return on assets posted mixed results. It implies that there was no a definite connection links the number of years and the capital adequacy, liquidity and return on assets. High leverage is attributed to high debt financing.

From the regression analysis results the research established a number of credit risk management variables that affect financial performance and they included leverage,

inflation rate, firm size, interest rates, capital adequacy and liquidity and the intercept for all these factors was found to be 0.911 for the years analyzed. The five independent variables which were analyzed which included the leverage, inflation rate, firm size, interest rates, capital adequacy and liquidity were able to explain their effect on the financial performance up to 13% as shown by adjusted R square. This implies that the five independent variables inputs 13% on the financial performance and the remaining 87% is contributed by the factors not studied.

This research found out that the coefficient of leverage was -0.054 meaning that leverage negatively influences financial performance. This means that as the leverage increase, the financial performance decreases. Inflation rates are negatively related with the financial performance this is evident form the value of the coefficient of -0.015. Firm size is negatively related to financial performance since its coefficient was -0.039. Liquidity showed a positive relationship with financial performance since the coefficient was 0.024 meaning that raise in liquidity leads to financial performance. Capital adequacy has a negative effect on economic development since the coefficient was -0.071. This means that increase in capital sufficiency can lead to a decrease in economic development. Finally interest rate is positively linked to the financial performance since the coefficient of interest rate was 0.002 and this effect is insignificant because the p value of 0.781 is greater than 0.05.

To conclude, the management of credit risks influences the financial performance of the commercial banks listed at the NSE. The paper concurs with the study by Aden and Brooke (2014) who concluded that the management of credit risks influences the

financial performance of the commercial banks in United Kingdom. Lin (2015) who conducted a paper on the influence of the management of credit risks on performance of firms in Germany from 2010 to 2014 made conclusions that management of credit risks had no significant effect on performance of firms in Germany within the period of 2010 to 2014. This could be attributed to the variables used in measuring the credit risk management and the short study period.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This part gives a summary, conclusions, recommendations for policy, study limitations along with recommended areas for further studies.

5.2 Summary of the Findings

This paper's goal was to institute the influence of the management of credit risks on the financial performance of the commercial banks quoted at the NSE. This paper established that a strong relationship exist between the management of credit risks and the financial performance of the commercial banks. This is based on the fact that the management of credit risks is aimed at mitigating the financial losses caused by default risk. Mitigating the financial losses caused by default risk is key especially when a bank is faced with adverse situations. Any loaning choice ought to dependably be preceded by itemized investigation of risks and the result of examination ought to be taken as a guide for the credit choice a procedure of making decisions which includes limiting losses from both unpaid debts and expenses of debt risk while expanding the value of credit deals which will positively affect the financial performance.

When the bank capital is greater, it is able to reduce any chance of financial distress, which negatively affect the commercial banks in the long run. The main source and cheap fund for capital adequacy comes from the adequate deposits, which will guarantee the commercials banks of risk free situations for example the market and operational risks which the commercial banks are exposed to. The mitigation of these risks is key because

it will ensure the customer deposits are projected. The capital adequacy is a major indicator of the internal strength of the commercial banks which will enable them to withstand any losses in cases of the occurrence of a crisis. The ratio of the capital sufficiency has a direct influence on the profits of commercial banks because it determines its exposure to risks hence the financial performance. There exist a positive connection linking liquidity with financial performance of commercial banks. Liquidity is a major aspect that determines the economic performance of commercial banks. It reveals the capacity of financial institutions to be able to meet any obligations that are due and that is majorly of the depositors.

Interest rates were found to be positively related with the financial performance from the study. On average the interest rates which were charged by the commercial banks was not uniform until the year 2017 when the interest rate cap was put in place. The trend of performance of the different variables under study which included leverage, inflation rates, firm size, interest rates, capital adequacy, liquidity and return on assets was captured by the descriptive analysis. The ANOVA was employed to determine how strong the model was in the analysis. Founded on the analysis of the regression statistics, the paper concluded that the six factors which include leverage, inflation rates, firm size, interest rates, liquidity and capital adequacy affected the economic development of commercial banks in Kenya. The six independent factors were able to explain their influence on the commercial banks up to 13.0% and the rest is contributed by other factors not considered in this study meaning the model was significant.

5.3 Conclusions

From the study, a weak negative connection was established to exist between leverage and the return on assets, the correlation coefficient was found to be -0.100 which was also not significant as the P value of 0.468 was found to be statistically insignificant ($P > 0.05$). A negative relationship exists between return on assets and inflation rate, the correlation coefficient was -0.039 and again the relationship was not significant. The P value was 0.775 which is greater than 0.05. A positive relationship exist between return on assets and company size, because the correlation coefficient was -0.329 although the relationship was moderate. This relationship was significant since P value was 0.014 which is less than 0.05.

A positive connection exist between liquidity and return on assets, because the correlation coefficient was 0.238 although the relationship was moderate. This relationship was insignificant since P value was 0.081 which is greater than 0.05. The capital adequacy is negatively related with the return on assets, the relationship was weak. The liquidity of the commercial banks was found to be negatively correlated with the financial performance which was gauged by the return on assets. The relationship was not significant since the P value was greater than 0.05. The interest rates positively affected the financial performance gauged in ROA. The relationship was however not significant because the P value was greater than 0.05.

Based on the data from the findings, on average the credit risk management adoption has been increasing among the commercial banks in Kenya. The rate of interest charged by the commercial bank over the years that were studied varied slightly over the years which

were studied. The capital adequacy of the commercial banks that were analyzed shows that on average, the capital adequacy posted mixed results. It shows that the amount of own fund that was available in supporting the bank's business was changing over time. The ability of the commercial banks to meet its obligations posted mixed results from the paper outcomes. The financial performance of the commercial banks posted mixed results over the years that were analyzed. There was no common trend for the financial performance.

Based on the outcome of this research, it concludes by saying that the management of credit risks contributes positively to fiscal performance of commercial banks in Kenya. This is founded on the fact that a certain factors studied proved the existence of positive connection linking the management of credit risks with financial performance and they included interest rates and liquidity. This implies that interest rates directly affect the financial performance. This is in agreement with the outcomes of a number of researchers. Mutisya (2011) argued that credit risk management affects the financial performance. Mutua (2014) made conclusion that the management of credit risks had a considerable influence on value of companies in Kenya. Vamishan (2015) found out that credit risk management helps in stabilizing the normal cash flows from advances and securities held. Hence, he inferred that credit risk is viewed as among the critical risks firms face which significantly affect their income.

5.4 Recommendations

From the outcome of this study, the paper recommends the adoption of credit risk management by the policy makers. This is due to the fact that credit risk management is

aimed at mitigating the financial losses caused by default risk. Mitigating the financial losses caused by default risk is key especially when a bank is faced with adverse situations. The effect of credit risk management can be made more significant if sufficient changes are made in terms of the adoption and full implementation of this practice.

This study recommends the adoption of credit risk management because it support the bank modern portfolio theory which focuses on the risk minimization for different types of returns and it is achieved by correct identification of proportions of investment funds in different classes of assets. Investors can either go for a high expected return or a low risk portfolio with low returns.

This study recommends the adoption of credit risk management, this new strategy is aimed at increasing the economic performance of commercial banks. The management of credit risks determines the survival and the profitably of the commercial banks since it identifies the potential factors likely to negatively affect them and come up with the appropriate procedures of dealing with them. One such procedure is the extensive credit analysis which aids in assessing the credit worthiness of the potential borrowers which will reduce the default risk.

5.5 Limitations of the Study

The sample for this study was Limited. Only eleven commercial banks listed at the NSE out of the possible 43 registered commercial banks in Kenya were analyzed. A relatively large sample size might yield different results.

Time constraint, considering the fact that this study relied on data from the multiple sources which included the Central Bank of Kenya and Capital Markets Authority, more time was needed for the entire exercise of data collection and analysis. But despite the limited available time, it was well utilized to attain the intended research goal.

The data that was employed in this study was only the secondary data which was not able to capture, the qualitative aspects of financial performance which are also significant for example offering goods and services of high quality to the customers.

5.6 Suggestions for Further Research

The paper makes recommendations that similar studies be conducted but now in the Eastern Africa region which involves the incorporation of the commercial bank in Kenya, Uganda, Tanzania, Burundi and Rwanda to compare the outcome with the Kenyan banking industry.

The paper suggests that a study be carried out to assess the effect of risk management on the economic growth this will be interesting to see whether a connection exists between credit risk and economic development.

This study recommends that in the near future, a research to be conducted which should incorporate the primary data for example the use of qualitative aspects of financial performance which were not captured by the study model.

This paper makes recommendations that a research be carried out to institute the influence of risk management on financial performance of the investment firms which are the major economic players across the world.

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APPENDIX I: LIST OF COMMERCIAL BANKS LISTED AT NSE

1	Barclays Bank
2	CFC Stanbic Bank
3	Co-operative Bank
4	Diamond Trust Bank
5	Equity Bank
6	Housing Finance
7	I&M Bank
8	Kenya Commercial Bank
9	National Bank
10	NIC Bank
11	Standard Chartered Bank

APPENDIX II: DATA

Bank	year	Inflation rates	Interest rates	ROA	leverage	liquidity	Company size	Capital adequacy
Barclays	2013	6.115	20.340	0.010	0.950	0.235	19.035	0.46
	2014	6.330	23.540	0.020	0.650	0.016	19.147	0.60
	2015	6.780	22.450	0.037	0.510	0.018	19.235	0.77
	2016	6.230	19.230	0.020	0.790	0.170	19.300	0.21
	2017	7.750	14.000	0.120	0.190	0.012	18.146	0.13
CFC Stanbic	2013	6.115	20.120	0.021	0.550	0.020	18.780	0.79
	2014	6.330	19.560	0.010	0.390	0.029	19.011	0.81
	2015	6.780	22.450	0.054	0.610	0.029	18.018	0.72
	2016	6.230	18.450	0.047	0.630	0.034	19.155	0.48
	2017	7.750	14.000	0.021	0.850	0.040	19.185	0.69
I&M	2013	6.115	19.050	0.045	0.854	0.040	18.519	0.88
	2014	6.330	21.670	0.038	0.860	0.045	18.738	0.01
	2015	6.780	19.070	0.067	0.280	0.059	16.868	0.29
	2016	6.230	21.560	0.040	0.418	1.250	17.988	0.94
	2017	7.750	14.000	0.020	0.980	0.038	18.431	0.61
DTB	2013	6.115	20.420	0.031	0.390	0.500	18.931	0.73
	2014	6.330	21.830	0.027	0.371	0.800	19.170	0.64
	2015	6.780	20.180	0.021	0.387	0.780	19.420	0.12
	2016	6.230	19.500	0.020	0.393	0.346	19.609	0.67
	2017	7.750	14.000	0.010	0.321	0.762	18.675	0.69
HF	2013	6.115	21.340	0.022	0.966	0.565	17.674	0.70
	2014	6.330	20.500	0.018	1.601	0.457	17.926	0.49
	2015	6.780	19.450	0.017	1.930	0.868	18.087	0.12
	2016	6.230	18.560	0.016	1.056	0.068	18.112	0.75
	2017	7.750	14.000	0.020	0.670	1.658	16.787	0.72
KCB	2013	6.115	21.760	0.040	0.780	0.836	19.592	0.18
	2014	6.330	20.550	0.036	0.306	0.752	20.011	0.91
	2015	6.780	21.540	0.021	0.314	0.815	20.140	0.08
	2016	6.230	19.500	0.005	0.280	0.687	19.168	0.68
	2017	7.750	14.000	0.012	0.764	0.671	20.156	0.32
NBK	2013	6.115	19.760	0.054	0.620	0.350	18.343	0.58
	2014	6.330	20.560	0.007	0.447	0.063	18.627	0.56
	2015	6.780	21.680	0.010	0.398	0.613	18.628	0.54
	2016	6.230	18.650	0.001	0.704	0.872	18.563	0.36

	2017	7.750	14.000	0.001	0.870	0.865	16.788	0.51
NIC	2013	6.115	20.540	0.030	0.469	0.891	18.542	0.53
	2014	6.330	19.870	0.029	0.530	1.002	18.736	0.24
	2015	6.780	21.760	0.080	0.190	0.988	18.870	0.58
	2016	6.230	19.860	0.073	0.620	0.088	18.902	0.60
	2017	7.750	14.000	0.024	0.530	1.759	17.787	0.54
STANCHART	2013	6.115	20.740	0.043	1.140	0.852	19.211	0.55
	2014	6.330	19.010	0.047	0.190	0.828	19.220	0.17
	2015	6.780	22.560	0.027	0.550	0.786	19.271	0.58
	2016	6.230	23.180	0.035	0.580	0.873	19.339	0.47
	2017	7.750	14.000	0.240	0.680	0.984	18.235	0.76
EQUITY	2013	6.115	22.050	0.309	0.430	1.816	17.575	0.58
	2014	6.330	20.180	0.516	0.570	0.872	17.355	0.09
	2015	6.780	22.710	0.024	0.620	0.890	19.875	0.62
	2016	6.230	23.650	0.037	0.270	0.079	19.976	0.83
	2017	7.750	14.000	0.010	0.380	0.768	18.157	0.72
COOP	2013	6.115	19.390	0.040	0.780	0.059	19.249	0.06
	2014	6.330	20.170	0.028	0.510	0.085	19.460	0.88
	2015	6.780	19.040	0.034	0.640	0.073	19.643	0.01
	2016	6.230	16.650	0.010	0.550	0.911	19.679	0.59
	2017	7.750	14.000	0.016	0.390	0.141	19.564	0.54