Effect of Credit Risk Management Practices on Performance of Commercial Banks in Kenya

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Abstract: Credit default risk has been cited as the primary cause of bank failures in Kenya. Between 1984 and 1991 there were a total of 29 bank failures reported. This is an alarming rate given that it represents on average two or more bank failures per year during that period. Though this trend has been reversed, credit default risks continue to be a major challenge among banks. The main objective of the study is to establish the effect of credit risk management practices on performance of commercial banks in Kenya. Particularly, the study examined the effect of loan appraisal, lending requirements, credit management tools and loan recovery process on financial performance of commercial banks in Kenya. The study adopted descriptive research design. The target population were all the licensed commercial banks operating in Kenya by the year 2017 as reported in the Bank Supervisory Report 2017. The unit of observation comprised the credit officers and finance managers of the commercial banks. A census was adopted on all the 39 commercial banks hence a total of 78 respondents were targeted. The study used both primary and secondary data. The study findings revealed that loan appraisal, lending requirement, credit management tools and loan recovery process had a positive and significant relationship with the financial performance of commercial banks in Kenya. The study recommended that commercial banks need to establish an overall credit limits at individual borrowers as well as clearly establish a process for approving new and refinancing of existing credits. Further, there is need for follow-up on payment schedule of borrowers and reminding customers before maturity. The commercial banks also need to develop a well-documented lending procedure, do lending against its lending standards, set lending policies in line with the market requirement as well as develop well-established lending policies regarding interest rates

Keywords: Credit Risk Management, Financial Performance, Commercial Banks, Loan Appraisal

1. Introduction

The high level of credit default risk in the banking industry has been a hindrance to economic stability. This problem is however a global problem. Globally, China Banking Regulatory Commission report 2014 revealed that default risks has been observed to continue to increase for Chinese banks through 2014, with nonperforming loans of the country's commercial banks increasing from 250.6 billion Yuan to 842.6 billion Yuan from the previous year. In Tanzania there has been an increase in the number of loan defaulters in commercial banks as well as pension schemes. A study carried out in Tanzania revealed that credit losses increased by a whopping 250% from Tsh. 2,173.22 million to Tsh. 9,800.07 million [1]. Locally, according to Central Bank of Kenya supervision annual report, the stock of non-

performing loans expanded by 7.8% to Ksh 64.9 billion by March 31st, 2009 from Ksh 58.3 billion in 2008. In the year 2006, the non-performing loans were Kshs. 56.4 billion from Kshs. 68.6 billion in 2005. According to the Bank Supervision Annual Report of 2006, in 2003 and 2004, the average non-performing loan to total loans for the industry was 25% and 24% respectively. Non-Performing Loans in Kenya stood at Kshs. 107.4 billion at the end of 2001. This represented 38% of total loan of Kshs.281.7 billion in the banking sector [2]. When loans become non-performing, banks liquidity and its earnings are adversely affected. Commercial banks therefore need better risk management strategies to manage the credit risk default.

Credit default risk has been cited as the primary cause of bank failures in Kenya. Between 1984 and 1991 there were a total of 29 bank failures reported. This is an alarming rate

given that it represents on average two or more bank failures per year during that period. Though this trend has been reversed, credit default risk continue to be a major challenge among banks [3]. The problem of credit default risk goes beyond mere loss of income on the part of banks. In order to reduce credit risk, Kenyan banks charge a premium [3]. This tends to increase the interest rates to borrowers which in turn reduce the demand for loans. These factors produce an unstable macro economy environment which serves to widen the interest spread between the deposit taking and lending rates. [4] argue that banks use various credit risk management methods such as credit limits, taking collateral, diversification, loan selling, syndicated loans, credit insurance, and securitization and credit derivatives. Credit risk management practices employed by a bank have an importance. It is important for staff of banking institutions to understand the aspect of risk in the banking operations and the risks that are inherent and exposed in their business operations. Better understanding of risk management is also necessary especially in the financial intermediation activities where managing risk is one its important activities [5].

1.1. Statement of the Problem

The performance of the banking sector in Kenya over the last decade has not been impressive. Several reforms have been implemented in the financial sector since 1990s aiming at increasing performance, stability, productivity, financial access and efficiency. However, bank profitability on average has been erratic [6]. In the period 2008- 2013, increases in profits before tax has been below 20% on average terms. In the year 2016, profit before tax of the Kenyan commercial banks increased by 16.6% as which is less as compared to 20.6% increase in the year 2015 [3]. Furthermore, there has been an increase in credit risk as shown by high non-performing loans of an average more than 30% of the total loans.

Furthermore, the KPMG report of 2016 indicated that credit losses increased by more than 8.3% in the year 2016. The Equity bank annual report 2016 indicated an increase in credit losses from the previous figures. Further, CBK supervision annual report 2015 indicated that the ratio of non-performing loans to gross loans increased from 4.7 percent in December 2012 to 5.2 percent in December 2013. Later the ratio increased from 5.2 per cent in December 2015 to 5.6 per cent in December 2016 and CBK was monitoring closely institutions that were experiencing deteriorating asset quality. These figures reveal an increasing trend in default risk which is not healthy to the performance of the commercial banks and the overall financial adequacy of the economy and therefore provides the impetus for conducting this study. [7] linked the unsteady performance of the commercial banks to high credit risks.

[7] further argues that credit risk management practices and poor credit quality continue to be a dominant cause of bank failures and banking crisis worldwide. Management of credit risk among the commercial banks has caused loan losses problem in developing countries, including Kenya.

Effective credit risk management practices minimizes the credit risk, hence the level of loan losses also decreases. However, while this is the case, commercial banks continue to record high credit risks as shown by an increase in non-performing loans. To manage the situation, there is a need for effective credit risk management practices. However, there are a number of practices being employed by commercial banks but their success rate is mixed [4]. The future of banking will undoubtedly rest on credit risk management dynamics. Only those banks that have efficient credit risk management practices will survive in the market in the long run [8]. This is also in line with an argument by [9] that effective management of credit risk is a critical component of comprehensive risk management which is essential for long-term success of a banking institution. With high credit risk and poor performance being recorded among the commercial banks in Kenya, it prompted this study to establish the credit risk management practices among these commercial banks and link it to performance so as to make policy recommendations for improvement.

1.2. General Objective

The primary objective of the study is to establish the effects of credit risk management practices on performance of commercial banks in Kenya. The study is guided by the following specific objectives:

i. To establish the effect of loan appraisal on performance among commercial banks in Kenya
ii. To determine the effect of lending requirements on performance among commercial banks in Kenya
iii. To investigate the effect of credit management tools on performance among commercial banks in Kenya
iv. To examine the effect of loan recovery process on performance among commercial banks in Kenya

2. Literature Review

This section presents a review of theoretical and empirical literature that underpins the study. It also presents a conceptualization of the study variables and the manner in which they interrelate.

2.1. Theoretical Literature Review

The study was based on the following three theories

2.1.1. Loanable Funds Theory

In economics, the loanable funds doctrine is a theory of the market interest rate which owes its origin to the Swedish economist Knut Wicksell. According to this approach, the interest rate is determined by the demand for and supply of loanable funds which is a prerequisite component in the evaluation of credit requirements in the economy.Interest rate is the risk premium that the borrower pays to acquire credit hence affect the demand for loan able funds in our current study [10]. Business firms or investors demand loanable funds because they are a form of capital (money capital). Capital is demanded because it is productive. Capital makes

other factors more productive.

In other words, investors demand loanable funds so that they can invest in capital goods and finance roundabout methods of production. Such methods of production are usually more productive than simple methods of production [8]. Thus, an investor's demand for loanable funds arises due to the productivity of the capital investment. An increase in the rate of interest is, in essence, an increase in the cost of capital. But it is to be seen against the larger availability of consumption goods made possible by a machine.

2.1.2. Theory of Financial Intermediation

The financial intermediation theory is based on the theory of informational asymmetry and the agency theory. The approach of financial intermediaries is based on the method of regulation of the monetary creation, of saving and financing of economy. The method of regulation influences the liquidity and solvability of intermediaries [9]. [11] show that the regulations regarding the capital of intermediaries influence their health, the ability for refinancing and the method for recovering debts. Furthermore, because financial institutions are able to break down assets into small units, they can reduce transaction costs and also employ diversification for the benefit of both their customers and equity holders. Secondly, financial institutions act as evaluators of credit risk for the depositor.

2.1.3. Modern Portfolio Theory
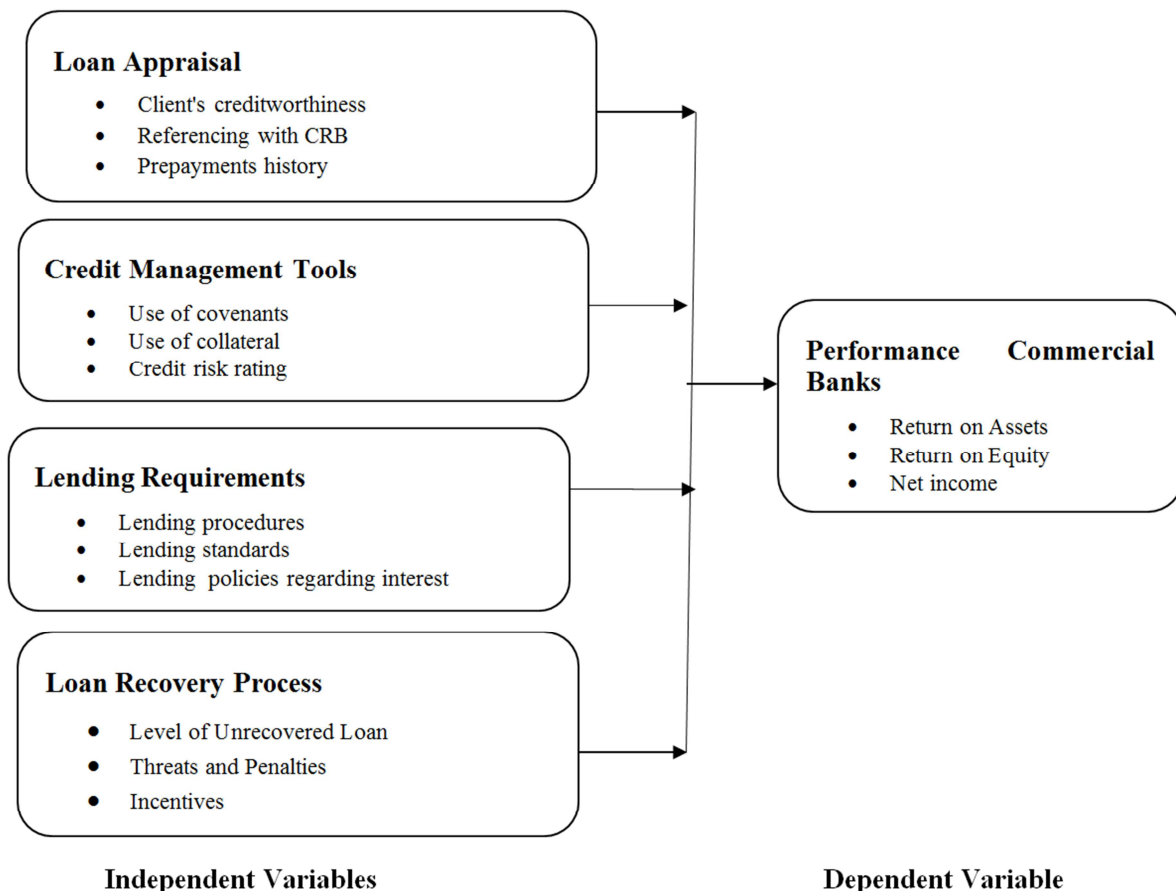
Modern Portfolio Theory (MPT) is a theory of investment which tries to maximize return and minimize risk by carefully choosing different assets [12]. The Primary principle upon which Modern Portfolio Theory is based (MPT) is the random walk hypothesis which states that the movement of asset prices follows an Unpredictable path: the path as a trend that is based on the long-run nominal growth of corporate earnings per share, but fluctuations around the trend are random [13]

Since the 1980s, banks have successfully applied modern portfolio theory (MPT) to market risk. Many financial institutions are now using value at risk (VAR) models to manage their interest rate and market risk exposures. Unfortunately, however, even though credit risk 11 remains the largest risk facing most banks, the practical of MPT to credit risk has lagged [12]. Financial institutions increasingly attempt to address the inability of the asset-by-asset approach to measure unexpected losses sufficiently by pursuing a portfolio approach. One weakness with the asset-by asset approach is that it has difficulty identifying and measuring concentration. Concentration risk refers to additional portfolio risk resulting from increased exposure to a borrower, or to a group of correlated borrowers [12].

2.2. Conceptual Framework

Figure 1. *Conceptual Framework.*

2.3. Review of Variables

2.3.1. Loan Appraisal

This is basic stage in the lending process. [14] describes it as the 'heart' of a high quality portfolio. This involves gathering, processing and analyzing of quality information as way of discerning the client's creditworthiness and reducing the incentive problems between the lenders as principals and the borrowers as agents. The bank's credit policy, procedures and directives guide the credit assessment process. Banks should base their credit analysis on the basic principles of lending which are Character, Capacity, Capital, Collateral and Conditions [15].

This information about the riskiness of the borrower makes the financial institution to take remedial actions like asking for collateral, shorter duration of payment, high interest rates and other form of payment [16] when a financial institution does not do it well, its performance is highly affected. The variable we have, according to [17] included the length of time taken to process applications, credit experience, proportion of collateral security to the loan approved. It was found out that long waiting time reflected a shortage of credible credit information required to make informed credit decisions.

2.3.2. Credit Management Tools

To maintain an appropriate credit administration measurement, monitoring process, [18] sets out a number of principals. One is that Banks should have in place a system for the ongoing administration of their various credit risk-bearing portfolios. Banks must have in place a system for monitoring the condition of individual credits, including determining the adequacy of provisions and reserves; and third, they are encouraged to develop and utilise an internal risk rating system in managing credit risk. The rating system should be consistent with the nature, size and complexity of a bank's activities.

Therefore, to have a sound credit risk management system, it is necessary to establish a proper credit risk environment, sound credit granting processes, appropriate credit administration, measurement, monitoring and control over credit risk, policy and strategies that clearly summarize the scope and allocation of bank credit facilities as well as the approach in which a credit portfolio is managed i.e. how loans are originated, appraised, supervised and collected, a basic element for effective credit risk management [1].

2.3.3. Lending Requirements

Typically, every bank has its own lending policy, which determines bank visions and strategies linked to credit activities. For a commercial bank, this policy acts as a guideline for employees and loan personnel in their daily jobs by setting a common mindset, a common goal among workers whenever they make decisions, handle transactions, negotiate and interact with customers. Though, components in a lending policy may vary from bank to bank, a lending policy needs to contain at least five elements: introduction, objectives, 10 strategies, credit standards, lending authorities and approvals [11].

[8] point out that a lending policy should cover; Lending organization, Lending objectives, Standards and criteria for loan, Credit risk rating, Loan authority, Lending procedures. A good lending policy is a strong tool to manage credit risk because it forms a system to evaluate and analyze credit profiles of new and existing borrowers. Since loan personnel is affected by lending policy in granting or refusing loan applications, the board of directors should put effort into developing and reviewing this policy annually and make necessary adjustments.

2.3.4. Loan Recovery Process

Over the last decade, many financial institutions were never so serious in their efforts to ensure timely credit recovery and consequent reduction of Non-Performing Assets (NPAs) as they are today. Loan recovery is defined as a process of pursuing loans which have not been repaid and managing to recover them by convincing the loanees to make attempts to repay their outstanding loans [19]. The role of recovering loans is not an easy task as clients will go out of their way to prove inaccessible to the lender/bank [9]. It is important to note that credit recovery management, be of fresh loans or old loans, is central to NPA management.

This management process needs to start at the loan initiating stage itself. According to [20], effective management of credit recovery and NPAs comprise two pronged strategy. First relates to arresting of the defaults and creation of NPA thereof and the second is to handling of loan delinquencies. The tenets of financial sector reforms are revolutionary which have created a sense of urgency in the minds of staff of bank and has given them an opportunity to perform or incur losses. Commercial banks in Kenya have intensified credit recovery strategies in order to reduce bad debts and improve their loan books [21]. Over 76% of the commercial banks in Kenya in the year 2013 noted that they had focused their credit monitoring and recovery strategies on personal or household loans while 56% had focused their credit recovery strategies on the trade sectors [21].

2.4. Empirical Literature Review

Empirical studies show differences in approaches to credit risk management when different contexts are considered [11]. [17] studied the relationship between credit risk management practices and financial performance of commercial banks in Liberia and found out that market fundamentals and institutional factors such as lack of capacity for credit risk managers which results in the use of consultants by banks in formulating credit risk policies influence financial performance. The study concludes that variations in the credit policies are attributable to bank efforts to maintain threatened profit margins. [22] study in Jordan examined the effect of credit risk management on financial performance found out that in spite of a large number of unpaid loans;

NPL ratio has a positive effect on profitability. [14] examined efficiency versus risk in large domestic USA banks and found that profit efficiency is sensitive to credit risk and insolvency risk but not to liquidity risk or to the mix of loan products. [2] examined the relationship between liquidity risk and loans-to-core deposits ratio of large commercial bank holding companies and concluded that the average loan-to-core deposit ratio had increased over the period studied, which reflects a change in the asset/liability management systems of banks.

[7] asserted that poor credit quality, high concentration of credit in certain sectors e.g. tea sector, speculative lending, lax credit standards have contributed majorly in NPLs posing a challenge in collecting debts recording high costs of loan provisioning hence greatly affecting their profitability. [13] investigated the degree to which the UAE commercial banks use risks management techniques and found that the UAE commercial banks were mainly facing credit risk and that inspection by branch managers and financial statement analysis were the main methods used in risk identification. [23] states that despite innovations in the financial services sector over the years, credit risk is still the major single cause of bank failures, for the reason that more than 80 percent of a bank's balance sheet generally relates to this aspect of risk management. A research by [2] has been conducted on credit risk management but the focus of the researches has been on how it affects performance, profitability and survival of banks. Rarely have these researches focused on the specific credit risk management practices variables that affect performance of non-performing loans among commercial banks in Kenya. This research therefore investigated the effects of credit risk management practices on performance of non-performing loans among commercial banks in Kenya.

3. Research Methodology

This study employed a descriptive research design. Descriptive research is conducted to describe the present situation, what people currently believe, what people are doing at the moment and so forth [24]. The target population included all the licensed commercial banks operating in Kenya by the year 2017 as reported in the Bank Supervisory Report 2017. The unit of observation targeted was the credit officers and finance managers of the commercial banks. One credit officer and head of finance from each commercial bank were targeted. A census was adopted on all the 39 commercial banks hence a total of 78 respondents were targeted. The study used both primary and secondary data. The primary data was collected using structured questionnaires. Secondary data on bank performance was obtained from financial statements and annual reports from the sampled banks reports. Data was analyzed using descriptive analysis as well as multiple regression analysis that is, correlation and regression analysis. The regression model was of the form: $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon$, Where Y is Performance of commercial banks, X_1 is Loan Appraisal, X_2 is Credit Management Tools, X_3 is Lending Requirements, X_4 is Loan Recovery Process, ε is the error term and β_0 is constant.

4. Results and Discussions

A total of 78 questionnaires were administered to the study respondents in all the 39 operational commercial banks in Kenya. The total number of questionnaires that were filled and returned was 68, representing an overall response rate of 87%. This percentage was representative enough. [2] agreed that a response rate above 50% is good enough for publication.

4.1. Descriptive Analysis of Study Variables

The first objective of the study was to establish the effect of loan appraisal on financial performance of commercial banks in Kenya. Respondents were asked to rate various statements on loan appraisal on a scale of 1-5 where 5= strongly agree; 4 agree; 3= neutral; 2= disagree and 1= strongly disagree. The study findings were as indicated in table 1. The study findings revealed that majority of the respondents strongly agreed that commercial banks in Kenya have an established overall credit limits at individual borrowers and have an established process for approving new and refinancing of existing credits as shown by mean value of 4.62 and 5.00 respectively. The respondents also agreed that commercial banks in Kenya follow payment schedule of borrowers and remind customers before maturity and that banks monitors and supervises customers from their portfolio and report any unusual signals as shown by mean value of 3.60 and 3.54 respectively. Lastly, the respondents neither agreed nor disagreed that approval authorities are only reserved for the credit committee as indicated by mean value of 3.01. This study's results implied that the majority of the respondents agreed that their commercial banks have an effective loan appraisal process in place.

Table 1. Loan Appraisal process.

Statements	Mean	Standard Deviation
The bank has established overall credit limits at individual borrowers	4.62	0.79
The bank has a clearly established process for approving new and refinancing of existing credits	5.00	0.00
The bank follow payment schedule of borrowers and remind customers before maturity	3.60	1.12
Approval authorities are reserved for the credit committee only	3.01	1.30
The bank monitors and supervises customers from their portfolio and report any unusual signals	3.54	1.29
Average	3.95	0.88

The second objective of the study was to determine the effect of lending requirements on performance among commercial banks in Kenya. Respondents were asked to rate various statements on lending requirements on a scale of 1-5 where 5= strongly agree; 4 agree; 3= neutral; 2= disagree and 1= strongly disagree. The findings indicated an agreement that the bank has a well-documented lending procedure (Mean = 3.57), lending is done against the lending standards of the bank (Mean = 3.79) and that the lending policies set by the bank are in line with the market requirement (Mean = 3.54). The findings also revealed that the respondents agreed that there is well established lending policies regarding interest rates (Mean = 3.57) and that effective lending procedure improve bank profitability (Mean = 3.79). The findings indicate that on average, there was an agreement on statements on lending requirements. The results are consistent [8] argue that a good lending policy is a strong tool to manage credit risk because it forms a system to evaluate and analyze credit profiles of new and existing borrowers.

Table 2. Lending Requirement.

Statement	Mean	Standard Deviation
The bank has a well-documented lending procedure	3.57	1.33
Lending is done against the lending standards of the bank	3.79	1.39
The lending policies set by the bank are in line with the market requirement	3.54	1.19
There is well established lending policies regarding interest rates	3.57	1.33
Effective lending procedure improve bank profitability	3.79	1.39
Average	3.64	1.33

The third objective of the study was to investigate the effect of credit management tools on performance among commercial banks in Kenya. Respondents were asked to rate various statements on credit management tools on a scale of 1-5 where 5= strongly agree; 4 agree; 3= neutral; 2= disagree and 1= strongly disagree. The study findings were as indicated in table 3. The results indicated that most of the commercial banks in Kenya uses covenants to manage their credit risks (Mean = 3.46). There is also a requirement that every borrower must have collateral before accessing a loan from the commercial banks in Kenya (Mean = 4.07). The findings further revealed a neutral view among th e respondents that there is frequent credit rating to determine the credit worthiness of the borrowers (Mean = 3.32) and that the use of loan covenants reduce credit risk (Mean = 3.44). On average, the findings showed that the respondents agreed that there are credit management tools adopted to manage credit risk.

Table 3. Credit Management Tools.

Statements	Mean	Standard Deviation
The bank uses covenants to manage its credit risks	3.46	1.52
The is a requirement that every borrower must have collateral before accessing a loan	4.07	1.35
There is frequent credit rating to determine the credit worthiness of the borrowers	3.32	1.41
The use of loan covenants reduce financial risk	3.44	1.14
Average	3.65	1.35

The fourth objective of the study was to examine the effect of loan recovery process on performance among commercial banks in Kenya. Respondents were asked to rate various statements on loan recovery process on a scale of 1-5 where 5= strongly agree; 4 agree; 3= neutral; 2= disagree and 1= strongly disagree. The average responses on statements regarding the effect of loan recovery process on performance among commercial banks in Kenya were as indicated in Table 4. The study findings revealed that majority of the respondent agreed that the level of unrecovered loans in the bank were manageable, the banks incentives increases the number of loan borrowers, the use of threats and penalties by banks helps to reduce the financial risk and the bank always penalizes loan defaulters as shown by mean value of 3.76, 4.07, 3.82 and 4.06 respectively. The results are consistent [9] noted that credit recovery management, be of fresh loans or old loans, is central to Non-Performing Assets management.

Table 4. Loan recovery process.

Statement	Mean	Standard Deviation
The level of unrecovered loans are manageable	3.76	1.12
The banks incentives increases the number of loan borrowers	4.07	1.35
The use threats and penalties by banks helps to reduce the financial risk	3.82	1.41
The total amount of unrecovered loans affects banks' net income	3.24	1.14
Loan defaulters are always penalized	4.06	1.33
Average	3.79	1.35

Financial Performance of Commercial Banks

The study sought to establish the financial performance of the commercial banks in terms of ROA and ROE. The trend analysis of the mean annual ROA as well as mean annual

ROE for the commercial banks was established. The trend   analysis for mean ROA is as presented in Figure 2.
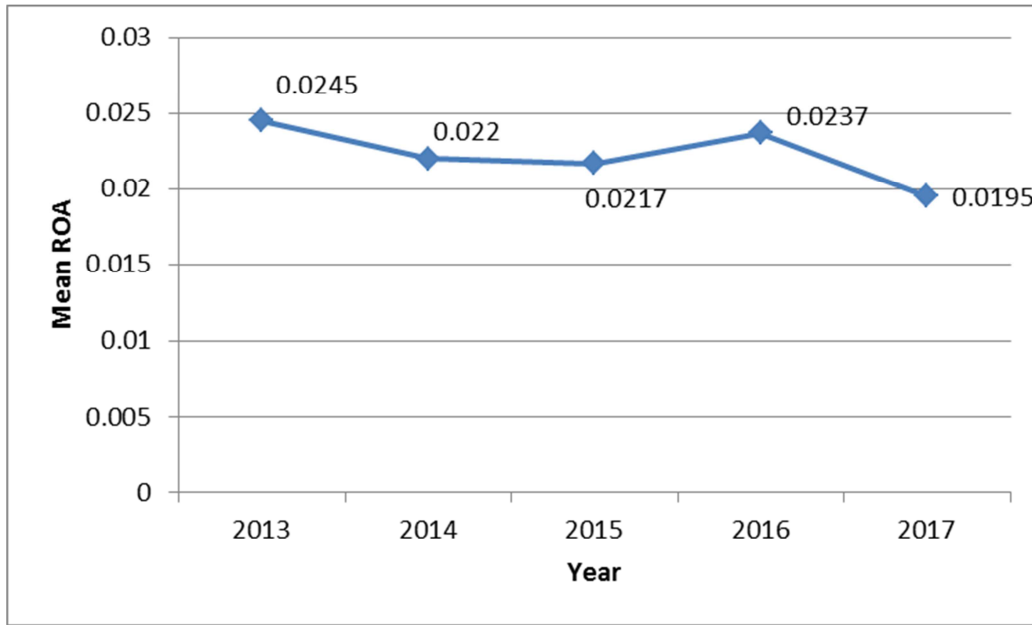

Figure 2. Financial Performance of Commercial Banks (ROA).

The study findings depict unsteady trends in the financial performance of the firms in the banking industry in Kenya in the study period (2013 to 2017) in terms of ROA. The mean ROA for all the firms in the year 2013 was 2.45%. The mean ROA decreased to 2.2% in the year 2014 before decreasing further to 2.17% in the year 2015. The highest mean ROA recorded within the study period was in the year 2016 where 2.37% was recorded and in the year 2017, a mean ROA of 1.95% was recorded on average, by the firms in the banking industry. This was an indication of unsteady trends in the ROA across the industry in the study period thus revealing unsteady performance. The findings are consistent with [6] who revealed that the performance of the banking sector in Kenya over the last decade has been unsteady. The study also established the trends of average returns on equity for the banking industry in Kenya in the study period and five years back. The findings are presented in Figure 3.
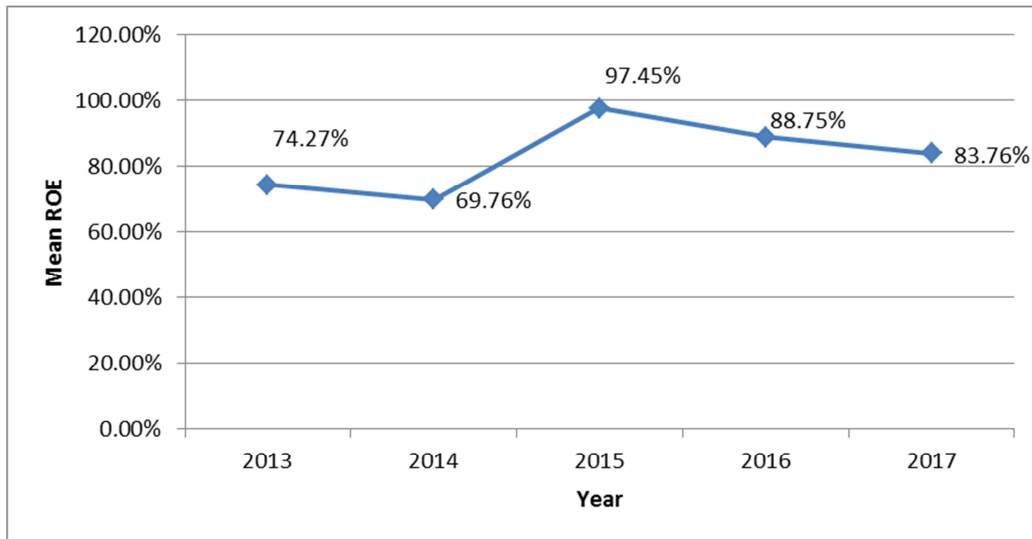

Figure 3. Financial Performance of Commercial Banks (ROA).

Unsteady trends in the financial performance of firms in the banking industry in Kenya in the study period in terms of Returns in Equity were also observed. The mean ROE for all the firms in the year 2013 was 74.27% which was higher than the year 2014 which was 69.76%. The mean ROE in the year 2015 increased up to 97.44% which was the highest for the study period before showing a slight decrease to 88.74% in the year 2016. In the year 2017, there was a further drop in the mean ROE to 83.75% for the firms. The findings are also consistent with [6] who indicated unsteady trends in financial performance of the Kenyan banking industry.

4.2. Correlation Results

The study findings revealed a positive and significant relationship between loan appraisal and performance of commercial banks in Kenya (R = 0.379, Sig <0.05). The findings imply that when commercial banks have an established overall credit limits at individual borrowers, clearly established process for approving new and refinancing of existing credits as well as following payment schedule of borrowers and reminding customers before maturity reduces credit risk and leads to an improvement in their performance. The correlation results also revealed that lending requirements and performance of commercial banks in Kenya are positively and significantly related (R = 0.799, Sig <0.05). It implies that when a commercial bank has a well-documented lending procedure, does lending against its lending standards, setting lending policies in line with the market requirement as well as having a well-established

lending policies regarding interest rates, it leads to a decrease in credit risk thus improving performance.

It was also established that credit management tools had a positive and significant association with performance of commercial banks in Kenya, (R = 0.264, Sig >0.05). This shows that when commercial banks uses covenants to manage its credit risks, develops requirements that borrowers must have collateral before borrowing a loan as well as using covenants, it reduces credit risk and improves performance of commercial banks. Finally, the correlation results showed that loan recovery process are positively and significantly related with performance of commercial banks in Kenya (R = 0.335, Sig<0.05). These findings reveal that when the unrecovered loans are manageable among the commercial banks, the banks incentives increases the number of loan borrowers, the commercial banks uses threats and penalties on loan defaulters; it leads to an improvement in performance.

Table 5. Correlation Analysis.

		Loan-Appraisal -process	Credit Management Tools	Loan recovery process	Lending requirement
Loan-Appraisal -process	Pearson Correlation	1			
Credit Management Tools	Pearson Correlation	-0.155	1		
Loan recovery process	Pearson Correlation	-0.222	-.267	1	
Lending requirement	Pearson Correlation	.287	0.056	.514	1
Performance of CBK	Pearson Correlation	.379**	.264*	.335**	.799**
	Sig. (2-tailed)	0.001	0.030	0.005	0.000
	N	68	68	68	68

4.3. Regression Analysis Results

This study used the following multiple regression model to establish the effect of credit risk management practices on performance of commercial banks in Kenya: $Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \varepsilon$, where; Y = Performance of commercial banks, X_1 = Loan Appraisal, X_2= Credit Management Tools, X_3= Loan Recovery Process and X_4 = Lending Requirements. The coefficient of determination results indicated that the four variables that is Loan Appraisal, Credit Management Tools, Loan Recovery Process and Lending Requirements account for up to 73.9%

of the variation in the financial performance of commercial banks in Kenya.

Table 6. Model Summary.

R	R Square	Adjusted R Square	Std. Error of the Estimate
0.860	0.739	0.723	0.220134

In regard to the model significance, the findings indicate that the model was significant as shown by a significant F statistic value of 44.64 which is significant at 5% level of significance. This is because the significance value was 0.000 which is less than 0.05. The findings are shown in Table 8.

Table 7. Analysis of Variance (Model Significance).

	Sum of Squares	df	Mean Square	F	Sig.
Regression	8.652	4	2.163	44.638	0.000
Residual	3.053	63	0.048		
Total	11.705	67			

The model coefficient results revealed that loan appraisals positively and significantly affect financial performance of commercial banks in Kenya (Beta = 0.193, Sig< 0.05). The findings imply that a unit increase in loan appraisal process of commercial banks, leads to a 0.193 units increase in financial performance of commercial banks in Kenya. The model coefficient results also showed that credit management tools positively and significantly affect financial performance of commercial banks in Kenya (Beta = 0.121, Sig< 0.05). The findings imply that

a unit increase in credit management tools of commercial banks, leads to a 0.121 units increase in financial performance of commercial banks in Kenya.

The model coefficient results also indicated that loan recovery process positively and significantly affect financial performance of commercial banks in Kenya (Beta = 0.066, Sig< 0.05). The findings imply that a unit increase in loan recovery process of commercial banks, leads to a 0.066 units increase in financial performance of commercial banks in Kenya. Lastly, it was shown that

lending requirement positively and significantly affect financial performance of commercial banks in Kenya (Beta = 0.698, Sig< 0.05). The findings imply that a unit increase in lending requirement of commercial banks, leads to a 0.698 units increase in financial performance of commercial banks in Kenya [25].

Table 8. Regression Coefficients Results.

Predictors	B	Std. Error	t	Sig.
(Constant)	0.009	0.334	0.028	0.978
Loan Appraisal process	0.193	0.054	3.58	0.001
Credit Management Tools	0.121	0.028	4.305	0.000
Loan recovery process	0.066	0.036	1.823	0.033
Lending requirement	0.698	0.107	6.495	0.000

5. Conclusions

The study concluded that when commercial banks have an established overall credit limits at individual borrowers, clearly established process for approving new and refinancing of existing credits as well as following payment schedule of borrowers and reminding customers before maturity reduces credit risk and leads to an improvement in their performance. It can also be concluded that when a commercial bank has a well-documented lending procedure, does lending against its lending standards, setting lending policies in line with the market requirement as well as having a well-established lending policies regarding interest rates, it leads to a decrease in credit risk thus improving performance. Another recommendation by the study is that when commercial banks uses covenants to manage its credit risks, develops requirements that borrowers must have collateral before borrowing a loan as well as using covenants, it reduces credit risk and improves performance of commercial banks. Furthermore, when the unrecovered loans are manageable among the commercial banks, the banks incentives increases the number of loan borrowers, the commercial banks uses threats and penalties on loan defaulters; it leads to an improvement in performance.

6. Recommendations of the Study

The study recommends that in order to enhance an improvement in financial performance, through managing credit risk, the commercial banks need to establish an overall credit limits at individual borrowers, clearly establish a process for approving new and refinancing of existing credits as well as following payment schedule of borrowers and reminding customers before maturity. The commercial banks also need to develop a well-documented lending procedure, do lending against its lending standards, set lending policies in line with the market requirement as well as develop well-established lending policies regarding interest rates. Another recommendation by the study is that commercial banks need to use covenants to manage its credit risks, develop requirements that borrowers must have collateral before borrowing a loan as well as use covenants. Furthermore, commercial banks need to manage unrecovered loans, provide incentives for loan repayment as well as use threats and penalties on loan defaulters.

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