

Capital Buffer, Credit Standards and Financial Performance of Commercial Banks in Kenya

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Abstract: - Credit risk management is considered one of the more difficult banking industry activities, especially during periods of low growth. The research aims to examine the effect of credit risk management practice on commercial banks' financial performance in Kenya. These practices include capital buffer and credit standards. The research was built on Credit buffer hypothesis and shift ability theory. In this study, the causal research was employed. The mean and standard deviation were used to depict each variable in the study, and quantitative data was examined using descriptive statistics. Correlation statistics were used in this study to show the connection between the variables. The data analysis for the study was led by the multiple regression model. Regarding Capital buffer and credit standards the study found that they had significant effects to financial performance of commercial banks in Kenya. The researcher was able to conclude that proper capital buffer enhances financial performance of commercial banks in Kenya since it ensures that commercial banks have enough cash and resources at their disposal to ensure healthy business operations. It was also concluded that poor credit standards in the banking sector increases credit risk exposure to the commercial banks. According to the study, commercial banks should make sure that there is enough cash on hand to cover potential future possibilities and unforeseen circumstances. A properly managed inventory system is a very effective lever for increasing working capital management which becomes a strong capital buffer for commercial banks in Kenya. The issuance of loans and other financial assets that are known to often encourage defaults should be regulated by commercial banks in order to increase credit standards. In order to analyze their financial data on loan applicants, commercial banks should construct their internal credit risk assessment models to enhance credit standards.

Keywords: *Capital Buffer, Credit Risk, Credit Standards.*

I. INTRODUCTION

Due to the financial services they offer, commercial banks are important to the global economy's performance, growth, and development (Mwangi, 2012). As a result, any banking industry's efficiency and effectiveness are likely to

be used as a gauge for its strength, stability, and profitability. According to Kithinji (2010), the amount of credit a bank offers to other financial institutions accelerates a nation's economic expansion as measured by GDP and ongoing business performance, which is primarily determined by Return on Assets. Due to these ramifications, commercial banks may have credit risks. According to Macharia (2012), credit risks are dangers that could arise if a borrower doesn't pay the bank's obligations on time or within the specified payment period, including interest, principle, and commissions.

Contrarily, Essendi (2013) defines credit risks as the risk that the bank may lose the unpaid loan to the debtors entirely or as a result of default. According to Mwangi (2012), credit risk develops when a debtor's ability to pay their debts or their financial stability is impaired, which causes a financial loss for the bank. The magnitude and severity of the misfortune brought on by the known risk likely went unaltered to result in an extraordinary situation of advance misfortunes and even bank liquidation. However, the CMA and CBK mandate that banks keep loan loss reserves to cover losses brought on by debt holders' defaults.

According to Musyoki & Kadubo (2017), credit risk management is characterized as the procedure of distinguishing proof, estimation, observing, and control of hazards emerging from the likelihood of default in credit reimbursements. Further, Lagat, Mugo, and Otuya (2013) Credit risk management, is the bank's routine for mitigating risks and losses resulting from a bank's capital shortage or advance loss reserves. The main goal of credit risk management is to increase a bank's risk by changing the rate of return and maintaining credit risk presentation within acceptable bounds. Banks need to deal with the credit risk intrinsic to the whole portfolio, just as the risk in individual credits as exchanges. Likewise, bank administrators should spot guidelines that improve indebted individuals' straightforwardness and information about clients and their related credit risk.

Further, Aduda and Gitonga (2015) point that credit risk management should be the focal point of banks' tasks to keep up money-related quality or manageability of a bank and achieve more customers. Despite these actualities, there has been an expanded number of critical bank problems and

credit risks in both, developed and rising economies throughout the years. Bank problems, generally monetary disappointments and money-related, have harrowed various banks, huge numbers shut around the administrative specialists. Among different variables, a shortcoming in credit risk management has been referred to as the fundamental driver for bank problems.

According to Kalunda, Nduku, and Kabiru (2012), credit risk has been the primary cause of problems in banks all over the world since the turn of the twenty-first century. Most likely, bank investigators and their supervisors should learn lessons from prior experiences. Banks should now have a keen awareness of risk and strict guidelines to recognize, measure, screen, and control credit risk to determine whether they have enough capital to cover these risks and whether the hazards they have caused are adequately offset. They believed that intermediaries for the banking and corporate division's weakness are the best warning signs of financial crises. He adds that the most obvious indicators that can be used to predict banking crises are directly related to the stability, accountability, and responsibility of the financial system.

The Central Bank of Kenya released a risk management survey in 2015 to evaluate the administration and impact of credit risk management in Kenya. The survey sought to ascertain whether the 2010 Risk Management Guidelines had any impact on commercial banks, whether they were reflective of operating environment conditions, and whether they had established the necessary amendments (CBK, 2015). The credit control policies in these regulations serve as a guidance for banks when extending credit. They discovered that, for the majority of commercial banks, the Risk Management Guidelines announced in 2015 had usually boosted the efficacy and efficiency of risk management. It improved the institutions' risk awareness and risk management, reduced financial losses, sparked the creation of useful and better resourced risk management services, and improved the institutions' overall decision-making processes (CBK, 2010). However, many bank managers were not complying strictly or applying to these guidelines. Their banks were not absorbing higher capital costs for credit risks. They overruled their approaches to credit risks since they were shortsighted on the extent of credit risks' effect on the bank's financial performance and success (Kalunda, et. al, 2012).

Other than the risk management rules by CBK, business banks are additionally urged to utilize the 'know your customer principle' as explained by the Basel Committee on Banking Supervision to limit credit risk (CBK, 2017). As per the World Council of Credit Unions (WOCCU), the Basel board of trustees on banking supervision set the Basel II prudential benchmarks for credit unions that requires money related establishments, including banks to keep up good money stores or cash flow to cover credit risks brought about by functional exercises of a bank (WOCCU, 2014). As indicated by (Altman and Sabato, 2005), Basle II concurs with a progression of sorted out prescribed financial laws and guidelines that expresses that a

bank should hold riskier resources to have progressively capital and more secure risk portfolios.

These accords are arranged into three columns, to be specific; column I on the base good capital prerequisite, column II on supervisory audit procedure, and column III on market discipline. These principles should better adjust administrative funding to genuine risk. The Basle II Accord aims to improve well-being and soundness in the monetary framework by setting more accentuation on the three columns (Essendi, 2013). The base capital prerequisite tries to refine the estimation system set out accord while the supervisory audits a foundations capital sufficiency and internal appraisal process. In conclusion, the market discipline through powerful revelation empowers protected and sound financial practices (Becker, 2017). Chi and Li (2017) contend that the undeniable advantage of these columns is to give banks the world consistency by isolating and decreasing the credit risks from operational risks in this manner, improving the steadiness of the budgetary markets.

A few speculations have been advanced, suggesting credit risk management (Bodnar, Giambona, Graham, and Harvey, 2019). This incorporates interest rate theory, Term structure of interest rate theory, a theory of financial crises, Portfolio theory, and office theory. Interest rates speculations as by (Becker 2017) states that interest rates affect credit risk because the higher the interest rate brought about by components, for example, change of cash, the term of development of the venture, free market activity of cash powers in the market, government guideline, political factors and measure of insurance security; the higher the risk that the advance probably won't be reimbursed.

Then again, the term structure of interest rate speculations focuses that the long-term interest rates are riskier than momentary interest rates; therefore, speculators expect a higher return whether they must be inspired to hold financial instruments that are long-term interest-bearing instrument (Lutz, 2017). Further, as per (Tily 2016), financial crises theory explains that crises in the financial part influence business banks' capacity to broaden credit of the borrowers' capacity to support their advances. Portfolio theory, then again, is connected in the constitution of advance portfolios of business banks where there are principles and guideline on advances that banks ought to stretch out to their customers. For example, limit as far as credit that ought to be reached out to outsiders to augment the standard returns and lessen the risks (Kaiser, El Arbi, and Ahlemann, 2015). The organization theory fights that numerous banks are overseen by the supervisors and not by the proprietors to wrap things up. Along these lines, there are specialist risk choices impacted by various partner dimensions of oversight. Largely, the operator is the leader; anyway, the risks caused are borne by the principal (Alshatti, 2015). Business banks ought to be appropriately overseen, and management ought to be fit and legitimate to have the capacity to settle on credit risk management choices and that, which should direct banks to large amounts of financial performance.

➤ *Credit Risk Management Practice among Commercial Banks in Kenya*

Kenyan commercial banks and non-banking financial institutions provide corporate and retail banking services. According to Alshatti (2015), the Central Bank and commercial banks constitute part of the banking sector. The banking industry is governed in Kenya by the Companies Act, the Banking Act, the Central Bank of Kenya Act, and the various prudential requirements established by the Central Bank of Kenya (CBK). The CBK is responsible for outlining and carrying out cash-related techniques and enabling the financial system's liquidity, dissolvability, and proper operation. Information is provided by the CBK on Kenya's commercial banks, non-banking cash outlets, credit fees, and numerous preparations and principles (GoK, 2010).

The Kenya Bankers Association (KBA), which serves as a waiting room for the commercial banks' interests and addresses issues affecting its people, has brought the commercial banks together (Kenya Bankers Association Annual Report, 2008). Currently, there are one contract cash association and 43 recognized commercial banks in Kenya whereby 13 are externally assured, and 31 are covertly had. The covertly held budgetary foundations include 27 commercial banks, 3 commercial banks, and 1 contract record association, all of which have significant government and state corporation ownership. Two or three enormous commercial banks that dominate the market—the majority of which are located abroad, while others are primarily asserted locally—are available (CBK yearly report, 2010). Only 12 of these are listed with the Nairobi Securities Exchange. The cash related expert, CBK, must ensure any improvement movement from the commercial banks. Key developments from Kenyan commercial banks include, among others, the launch of Islamic products by BBK in 2005, Free ATM Usage by BBK in 2010, Diva Account by SCB in 2007, and Free ATM Usage by BBK in 2010.

Kenyan commercial banks use techniques for managing credit risk, including careful credit analysis, the use of collateral, and keeping track of the borrowers' credit histories. The development of credit policy norms with adequate capital buffers and a clear definition of the scope and distribution of bank loan facilities has an impact on how well credit risk management functions. The Basel II criteria and bank profitability indicators including return on equity, return on assets, and return on investment are used by commercial banks in Kenya as internal performance benchmarks for bank lending. In addition, criteria have been established for the cost of each loan that is completed, the cost of loans per \$1,000 in loan volume, the non-interest revenue generated by each loan, and the number of loans per employee.

➤ *Statement of the Problem*

The very primary objective of commercial banks is to maximize shareholders' wealth through the advancement of loans to customers. This objective undoubtedly helps in financing the activities of other business enterprise to

promote economic growth and a stable and sound financial institution (Kithinji, 2010). However, this function exposes the banks to various types of credit risk. According to Alshatti (2015), commercial banks adopt different credit risk management majorly determined by; credit risk management guidelines and credit policies of banks.

Banks may, therefore, employ the finest methods for managing credit risk, but they may not always turn a profit. Banks have various traits despite their being industry standards for what constitutes a solid credit policy and what does not (Mutua, 2015). Additionally, observe how the market will be more forgiving of a bank's subpar performance when the entire banking industry has been adversely affected, such as during a financial crisis. If banks exhibit a herding behavior, banks may be obliged to modify their loan policy to conform to other banks in the market (Kariu & Mungai, 2018).

Credit risk management Practice and financial performance have generally received much attention because of the financial instability and distress in global economy. According to Lagat, Mugo & Otuya (2013) most of these studies have concentrated on small, rural and few commercial banks to the neglect huge banks recorded on the Nairobi Security trade. For example, Nyambere (2013) examined on impact of credit risk on savings and credit cooperatives in Kenya. The study revealed a negative a correlation of capital management, earnings, and liquidity to performance of SACCOs. In addition, Essendi (2013) conducted a study on the effect of credit risk management on loans portfolio among SMEs in Kenya. He found a negative correlation between credit risks and performance. The scholars have contradicting results on the correlation effect between credit risk management and performance.

Although commercial banks place a lot of focus on managing credit risk, the extent to which this aspect contributes to earnings has not been examined. According to Macharia (2012), increasing lending short-term increases earnings, therefore banks have an incentive to relax credit standards during periods of rapid credit expansion and to tighten standards during periods of slow credit development. As a result, it is unclear from the available studies if credit risk management is indeed important to commercial banks. The numerous strategies that banks use to mitigate credit risk have not been identified by the studies either. This study investigated thoroughly the impact of credit risk management on the financial performance of commercial banks in Kenya in this context.

➤ *Objective of the Study*

• *General Objective*

The general objective of this study was to examine the effect of Credit Risk Management Practice on financial performance of commercial banks in Kenya.

- *Specific Objectives*

The specific objectives included the following

- ✓ To examine the effect of Capital Buffer on Financial Performance of Commercial Banks in Kenya
- ✓ To examine the effect of Credit Standard on Financial Performance of Commercial Banks in Kenya

II. THEORETICAL REVIEW

➤ *Capital Buffer Hypothesis*

Memeh proposed the theory back in 2014. The postulant advocated adopting capital adequacy as a criterion for lending by commercial banks and other financial organizations. The primary concern for commercial banks during the financing procedure is the minimum capital requirement. Commercial banks are urged to keep more capital than necessary according to the capital buffer hypothesis. Commercial banks are subject to regulations intended to limit the nature of lending by encouraging the development of cyclical buffers. As a result, banks increase lending during economic expansion and decrease lending during recessions.

The Capital Buffer was designed to offset the losses on hazardous investments when large banks saw their capital depleting rapidly as a result of systemic stress. When banks with market dominance realize that completion is jeopardizing the value of their charter, it is hypothesized that they may become more risk-averse. The risk levels in their borrower pool can be determined by large banks' loan rationing procedures, assuming different buffer profiles. The idea is that market-dominant banks' rate setting can have a disincentive effect on borrowers, raising risk and requiring banks to increase their buffer. Theoretically, banks won't have enough capital available during downturns if they don't accumulate capital reserves during economic booms.

The hypothesis is useful in evaluating the capital management and risk management practices of Kenyan banks. For financial regulatory organizations like the Kenyan central bank, the premise is advantageous. It would promote the bank's reputation and aid in the smooth operation of the financial system by sending a positive message to various suppliers and marketing. The capital buffer is an essential tool for lowering losses and, consequently, the risk of default for banks. It improves institutions' financial stability when added. The argument holds that banks can follow central bank laws without suffering consequences.

➤ *Shiftability Theory*

Shiftability theory or liquidity was formally developed by Moulton (1915), and it states that commercial banks could most effectively protect themselves against massive deposit withdrawals by holding, as a form of liquidity reserve, credit instruments for which there existed a ready secondary market. Proponents like Mitchell (1923) alludes that shiftability hypothesis depends on the extent that banks liquidity is kept up on the off chance that it holds resources that could be moved or sold to different loan specialists or

speculators for money. Further, Morton (1939) states that a bank's liquidity is kept up in the event that it holds resources that could be moved or sold to different credit holders. This hypothesis perceives that shiftability, attractiveness or transferability of a bank's proceeds is a reason for guaranteeing liquidity. This hypothesis further posts that profoundly attractive security held by a bank is a magnificent source of liquidity.

Emery (1984) suggested using liquidity theory as a precursor to shiftability theory while discussing credit that credit-allocated banks use more exchange knowledge than banks with regular access to financial institutions. The main claim of this hypothesis is that the concept of exchange credit can make up for a reduction in the amount of credit offered by commercial banks when an organization is financially restrained. According to this perspective, Gama Auken (2015) suggests that banks with excellent liquidity or greater access to capital markets can have an impact on the capital sufficiency of banks with a high credit ratio.

Waweru (2017) indicates that shiftability hypothesis comprises of the exercises engaged with acquiring assets from contributors and different loan bosses and deciding the proper blend of assets for commercial banks. Different creators have exposed liquidity hypothesis to basic audit. The general accord is that amid the time of misery, a bank may think that it is hard to acquire the ideal liquidity since the certainty of the market may have truly influenced and credit value would constantly be missing. The liquidity shiftability hypothesis is important to this study as it gives an express comprehension of how the liquidity hazard influences the monetary exhibition utilizing liquidity inclusion and net stable financing proportions as expressed by new Basel III system. The enquiry gives the data about whether credit dangers including liquidity kept up by the commercial banks influence the profits to the investors.

III. EMPIRICAL LITERATURE

By recommending additional credit gap metrics that can be used to measure the financial cycle and determine countercyclical capital buffers for banks, Reigl and Uusküla (2021) seeks to supplement the current Basel countercyclical capital buffer framework. The data in the study, which focuses on the European Union, dates back to 1970. The authors examine the existence and size of the newly proposed buffers prior to financial distress periods. The new metrics include the change in the credit-to-GDP ratio over a two-year period, the growth in credit relative to the nominal GDP trend value over a two-year period, the growth in credit relative to the eight-year moving average of growth in nominal GDP, and the growth in credit relative to annual nominal growth of 5%.

The internal mechanism between capital buffers and risk adjustment is studied by Zheng and Liang (2022). The authors created an unbalanced panel of balance sheet data from China's commercial banks from 1991 to 2009 based on the dynamic features of a bank's ongoing operations, and they then used the Generalized Method of Moments to

analyze the connection between short-term capital buffer and portfolio risk adjustments. According to the authors' estimates, well-capitalized banks maintain their goal level of capital by increasing (decreasing) risk as capital does, which shows that the link between capital and risk adjustments for these institutions is positive (decreases). The link between capital adjustments and risk, on the other hand, is adverse for banks with capital buffers that are close to the minimum capital requirement. That is, low capital banks either reduce risk to enhance their buffers or bet on a resurrection by increasing risk in an effort to boost the buffer. Furthermore, the authors' estimates demonstrate that the size of the capital buffer affects how well short-term changes in capital and risk are managed.

Kithinji (2010) stresses that the credit standards indicates the use of nonperforming loans ratios (NPLs) which are the proxy of credit standards, and the allowance or provision to loan losses reserve. Credit standards determines the strength of commercial banks against the loss of assets value. According to Mwangi (2012), poor credit standards is the significant reason for most bank non-exhibitions. A most significant asset category is the credit portfolio; the greatest risk confronting the bank is the risk of advance misfortunes got from the reprobate advances. The credit examiner should complete the credit standards appraisal by playing out the credit risk the executives and evaluating the quality of advance portfolio utilizing pattern investigation and friend correlation (Mwangi, 2012).

Credit standards is estimated by calculating the development of complete credit since banks gives profit to the bank and that diminishing the value of advances (Kwakye, 2012). Further, the development of gross credit upgrades commercial bank benefit just if bank takes on an unsatisfactory dimension of risk However, developing value of the asset in banking isn't sufficient on the off chance that they are not of nourishment quality, implying that, the advances endorsed and authorized by the banks ought to be great quality advances. Terrible quality credits have high odds of getting to be nonperforming advance in this manner creating no arrival to the boycott (Kwakye, 2012). In

addition, Muriithi and Waweru (2017) suggests that the quality of asset relies upon the quality of credit appraisal, checking and gathering inside the bank. The quality can be improved by securitizing the advances by collateral, having adequate arrangements for potential misfortunes, and maintaining a strategic distance from risky loaning.

IV. METHODOLOGY

This chapter deals with the methods the researcher used in conducting the study. The study adopted causal research design. Adopting this design was appropriate because it clarified the cause-and-effect relationship between variables. The 12 commercial banks that were listed on the Nairobi Securities Exchange for a five-year period between January 2015 and December 2019 served as the study's target population. To collect the necessary secondary data on all the study's variables, a data collection sheet was used. The independent variables were capital buffers and credit standards while the dependent variable was financial performance. Capital buffer was measured by the Weighted Average Cost of Capital whereas credit standards was measured by total debt to total credit ratio. Financial performance was measured by Return on assets. Data was collected from Annual financial statements for commercial banks from the Nairobi securities Exchange.

$$Y = a + \beta 1X1it + \beta 2X2it + \epsilon$$

Where:

- Y = Financial performance of commercial banks
- a defines the value of financial performance without the inclusion of the independent variables
- X1 to X3 represent the independent variables of the study.
- X1 =Capital Buffer
- X2 = Credit Standards
- ε = Error term

V. RESEARCH FINDINGS AND DISCUSSION

➤ *Findings of Descriptive Statistics*

Table 1:- Findings of Descriptive Statistics

	N	Minimum ('000)	Maximum ('000)	Mean ('000)	Std. Deviation	Skewness
Total Equity	50	10242219	129741000	50597890.04	29370479.314	.839
Total Debt	50	46212698	768831000	279136758.24	150971705.037	.953
Total Credit	50	10525885	419847253	160386084.76	123954141.264	.512
Operating Expenses	50	-39214000	-1678200	-15911031.88	10091777.812	-.785
Operating Income	50	4572226	66773000	30844716.46	17522811.545	.763
Net Income	50	937400	56130000	15623150.66	14668326.930	1.088
Total Assets	50	23456283	898572000	298521988.16	175238018.868	.973
ROA	50	.01	0.184967	0.113882553	0.178131258	3.224

Descriptive statistics is a method for statistically describing facts and information (Sharma, 2007). It can also be seen as a branch of statistics that deals with the numbers used to describe and summarize the data and information gathered for a given experiment (Mendenhall, Beaver &

Beaver, 2008). Both the dependent and independent variables in the study were subjected to descriptive statistics. Using the weighted average cost of capital, capital buffer was calculated for the independent variables.

The book value of shareholders' investments in a corporation is represented by the total equity of that company. It is the net difference between the total assets and liabilities of a corporation. According to the descriptive statistics, for the listed commercial banks throughout a five-year period from January 2015 to December 2019, the minimum total equity was 10,242,219 shillings and the maximum was 129,741,000 shillings, with a mean of 50,597,890.04 shillings. For the commercial banks during this time, the standard deviation was 29370479.314. The standard deviation is a measurement of the data's dispersion from the mean. The large standard deviation shown here in comparison to the mean suggests that total equity was more dispersed than average. Additionally, the values of Total Equity showed a skewness of 0.839. Skewness can be measured as an indicator of how much a distribution deviates from the normal distribution.

Total debt was calculated by adding up a company's liabilities, or debts, which were categorized as short and long-term debt. In most cases, commercial banks look at a company's balance sheet to factor in the debt ratio to make informed decisions about future loan options. Across the five years from 2015 to 2019, total debt for commercial banks rated at a minimum of 46212698 and maximum of 768831000 with a mean of 279136758.24. The mean for total debt was lower than the mean for total equity, an indication that commercial banks relied more on equity than debt. The standard deviation was 150971705.037 which indicated that there was a wide spread of total debt away from the mean.

Commercial banks were thought to incur operating costs as part of their regular business activities. They included expenses for rent, furniture, merchandise, marketing, payroll, insurance, steps, and money set aside for R&D. At the time of the study, the minimum operational cost for commercial banks was -39214000, the maximum was -1678200, and the mean was -15911031.88 with a standard deviation of 10091777.812. Despite technological advancements being consistently highlighted as criteria for reducing general operations costs, these costs have been steadily growing. Among other prominent variables, the rise in operating costs has been attributed to an increase in labor expenditures and interest costs.

The adjusted revenue of a business, less all operating costs and depreciation, was referred to as operating income. Operating expenses, as the name suggests, are simply the charges incurred to maintain the functioning of the business. It was also considered to be operating revenue. It was computed as total revenue less all operating costs and the cost of goods sold. Therefore, operating income was regarded as a metric that revealed how much of a bank's

revenue ultimately turned into profits when taking into account its business operations. It is a way to gauge a bank's profitability by focusing simply on its day-to-day operations. Commercial banks had a minimum of 4572226 and a maximum of 56130000 over the course of the study, with a mean of 15623150.66 and a standard deviation of 14668326.930. With a skewness of 0.763, the data was also skewed to the right.

A large asset base was also shown by commercial banks, with asset values ranging from 23456283 to 898572000, with a mean of 298521988.16 and a standard deviation of 175238018.868. Within the mean, the values were concentrated. Cash, investments, securities, loans and advances issued to clients of all types, chiefly companies (including term loans and mortgages), and lastly the bank's property, furnishings, and fittings made up the entire assets of the institution. However, the standard deviation of 175238018.868 indicates that the data was more dispersed from the mean and explains a significant degree of variation from the mean. The credit standards rating has a 0.973 skewness. This was a sign that commercial banks anticipated their asset base to experience numerous little gains and few significant losses.

Return on assets was a measure to financial performance, which was the dependent variable of the study. It measured how much money commercial banks in Kenya earned from 2015 to 2019 by putting their assets to use. The minimum ROA was 0.01 and a maximum of 0.184967 with a mean of 0.113882553 and a standard deviation of 0.178131258. Throughout the study period, the findings indicated that some commercial banks had as low ROA as 1% while others had as high ROA as 18.4%. A small ROA indicates inefficiency of the commercial banks in generating profits from their assets while a higher ROA indicates higher efficiency by the commercial banks to generate profits from their assets. The ROA had a standard deviation of 0.178131258, which indicated a 17% deviation from the mean.

➤ *Diagnostic Tests*

- *Hausman Test*

Together with Jerry Hausman, De-Min Wu, and James Durbin, the Hausman Specification Test was created. The test was run to see if an endogenous regressor (predictor variable) was present in the regression equation. According to Baltagi (2012), there should be no connection between the predictor variable and error term, which is one of the assumptions of conventional least squares that is broken by the existence of endogenous regressor. The Hausman test was run, and the outcomes are shown in the table below.

Table 2 Hausman Fixed and Random Specification Test

Test Summary	Chi-Square Statistic		Chi-Square Difference	Probability
	45.600		3	0.759
Variable	Fixed	Random	Variable (Different)	Probability
Capital Buffer	.00712	.00312	.0039	0.81
Credit Standards	.00055	.00061	-.00006	0.80

The results demonstrate that the probability between the independent and dependent variables in the overall panel model is more than chi-square, which was 0.759 and was greater than 0.05. As a result, the alternative hypothesis was accepted and the null hypothesis was disproved. As a result, the multivariate panel regression model was inferred using the Random Effect Panel Model (REM). All of the Prob>chi2 values exceeded 0.05.

➤ *Autocorrelation Test*

The study's autocorrelation was examined using the Durbin-Watson test. A value significantly below 2 denotes positive correlation between the data. A data element typically lies close to the one after it. The data is negatively auto correlated when Durbin-Watson is significantly above 2. The data element is typically far away from the data element after it. As a result, an autocorrelation test was run, with the results shown in the table below.

Table 3 Autocorrelation

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.88563 ^a	.782894	.765735	.08042130556	1.641

Predictors: (Constant), Capital Buffer, Credit Standard, Cedit Management Efficiency

• *Dependent Variable: ROA*

The Durbin-Watson result provides a value of 1.641 that is higher than 1. The outcome so implies that there isn't a significant autocorrelation issue with the data. This implies that the regression error terms are stochastic or random, demonstrating the lack of correlation between the two data items. This might alternatively be taken to mean that there are no biases or errors in the specification that might have caused regression estimation and standard error to be assumed to be ineffective.

➤ *Panel Unit Root Test Result*

The study used the unit root test using the Augmented Dickey-Fuller test to test or to select for no fixed or random

influence in order to determine whether the overall period model is stable or not. Ho is not rejected for either effect under the fixed effect model, but it is rejected under the fixed effect model even while it is not rejected for the random effect. Contrarily, in the case of the random effect model, Ho is rejected for the random effect rather than the absence of a fixed model. Therefore, fixed effect model is utilized for the investigation and vice versa if the Ho is rejected, as in this instance. To identify potential stationarity and auto correlation issues, the study used Eviews version 9 to perform unit root tests using Augmented Dickey-Fuller. The Levin-Lin-Chu unit root test method was used to run the ADF Regressions test, and the results are shown in the table below.

Table 4 Panel Unit Root Test Results Output

Variable	Statistic	Prob.**	Decision
ROA	54.2895	0.0001	Nonstationary
Capital_Buffer	31.0483	0.0500	Nonstationary
Credit_Standards	53.5116	0.0001	Nonstationary

The findings show that the overall period model has various p-values with 0.05 level of significance at a 95% level of confidence. Since probability values are more than 0.05, all of the variables were stationary at all levels for random effects, which is why the study used the random effect approach. For the first difference, more testing were

conducted. The outcome demonstrates that each variable was stationary. All of the variables that were determined to be non-stationary were used in the level ADF tests. The investigation disproves the null hypothesis that the variables have a unit root.

Table 5 Correlation Analysis

		ROA	Capital Buffer	Credit Standards
ROA	Pearson Correlation	1		
	Sig. (2-tailed)			
	N	50		
Capital Buffer	Pearson Correlation	.131	1	
	Sig. (2-tailed)	.366		
	N	50	50	
Credit Standards	Pearson Correlation	.072	.243	1

	Sig. (2-tailed)	.049	.089	
	N	50	50	50

** . Correlation is significant at the 0.01 level (2-tailed).

A correlation analysis was conducted to determine whether the dependent and independent variables were related. The results showed that there was a negative association between capital buffer and return on assets, which measured financial performance, but it was insignificant at the 0.05 significance level (.131). This was explained by the fact that improved capital buffer results in improved financial performance for Kenya's commercial banks. This is supported by research done by Budiarto (2020) on the effect of capital management on the financial performance of BPR in central Java and the contribution of empathy credit risk. He contends that the financial performance of commercial banks is significantly improved by capital buffers. This meant that their financial performance would improve as their capital buffer grew larger.

It was discovered that credit standards and return on assets, which are used to gauge financial performance, have a positive and significant effect. A Pearson correlation of .072 with .049 significance provided proof of this. The goal of working capital management is to maintain an ideal balance among all of the components of working capital,

which include cash, receivables, inventories, and payables. These are crucial components of the larger business value creation strategy and significant sources of competitive advantage for commercial banks. Financial performance improves as credit standards are valued more highly. Applying techniques that limit risk and the inability to meet short-term obligations and prevent overinvestment in current assets by planning and controlling current assets and liabilities constitutes effective credit standards (Nduta, 2015).

➤ *Regression analysis*

To assess the statistical significance between the independent variables (Capital Buffer, Credit Standards, and Credit Management Efficiency) and dependent variable, the researcher used regression analysis (Financial Performance). R-square is a measure of how well changes in the dependent variable (Financial Performance) can be explained by changes in the independent variables, or how much of the variation in the dependent variable (Financial Performance) can be accounted for by the three independent variables (Capital Buffer and Credit standards).

Table 6 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.88563 ^a	.782894	.765735	.08042130556

a. Predictors: (Constant), Capital Buffer, Credit standards

The value of R-Square is .782894. This implies that, Capital Buffer and Credit standards explained 78.2% of financial performance.

The model's usefulness in forecasting financial performance is assessed using the ANOVA test. The

ANOVA test showed that, at the 0.05 level of significance (P-value=0.05=0.05), the independent variables in this model, namely the Capital Buffer and Credit Standards, are significant in predicting the financial performance of commercial banks in Kenya.

Table 7 ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.	
1	Regression	.371	3	.124	4.805	.005 ^b
	Residual	1.184	46	.026		
	Total	1.555	49			

a. Dependent Variable: Financial Performance

b. Predictors: (Constant), Capital Buffer, Credit standards

In fitting the regression model, the researcher used results from the table below to determine the coefficients of the regression model as follows.

Table 8 Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.092	.017		5.561	.000
	Capital Buffer	-.135	.111	-.167	-1.223	.028
	Credit Standard	.002	.001	-.066	-.482	.032

a. Dependent Variable: Financial Performance

The fitted model can be represented as;

$$Y = .092 - .135X_1 + .000X_2 + \varepsilon$$

When all other variables are held constant, an increase in the capital buffer will result in a -.135 reduction in the return on assets, which is a gauge of financial success. The weighted average cost of capital was used to calculate the capital buffer. Return on Assets would improve by .002 for every unit increase in credit requirements. To ascertain the statistical significance between the independent variables (Capital Buffer and Credit Standards) and dependent variable, the researcher used regression analysis (Financial Performance). At the .05 level of significance, all factors were significant.

VI. CONCLUSION

This section details the conclusions that the researcher was able to reach. To start, the researcher was able to draw the following conclusion: A sufficient capital buffer improves the financial performance of commercial banks in Kenya. This is because it ensures that commercial banks have access to enough funds and resources to maintain a successful corporate operation. On the other hand, it makes it possible for commercial banks to pay their current obligations. Without it, commercial banks will constantly run the risk of having a capital shortfall, which will hinder their business operations.

The study came to the conclusion that the financial performance of Kenyan commercial banks was significantly impacted by loan rules. Poor credit standards in the banking industry expose commercial banks to more credit risk. The study came to the conclusion that poor credit standards will have an impact on the overall financial situation, which includes the portfolio of commercial banks, as maintaining credit standards is an important component to take into account when determining the rates of credit risk.

RECOMMENDATIONS

This research was done to contribute to the amount of knowledge about how credit risk management practice affects financial performance.

The study recommends that commercial banks to have appropriate cash levels for potential future possibilities and unexpected circumstances. Financial performance is a key criterion in analyzing the long-term financial health of commercial banks. Commercial banks, on the other hand, are advised to boost inventory turnover.

On the other hand, additional suggestions regarding the impact of credit standards on the financial performance of commercial banks in Kenya were made. It is suggested that commercial banks should control the issuance of loans and other financial assets that are discovered to typically attract defaulting. They will be able to access the necessary asset base as a result. It is strongly advised that the credit

standards rating be as accurate as possible because credit standards entails assessing the credit risk on certain assets.

REFERENCES

- [1]. Aduda, J., & Gitonga, J. (2015). *The relationship between credit risk management and financial performance among the commercial banks in Kenya*. Journal of Modern Accounting and Auditing, 7(9), 934.
- [2]. Akram, K. and Rahman, M. (2018). *Credit risk management: A comparative study of Islamic banks and conventional banks in Pakistan*, ISRA International Journal of Islamic Finance, 10(2)185-205
- [3]. Alshatti, A. S. (2015). *The effect of credit risk management on financial performance of the Jordanian commercial banks*. Investment Management and Financial Innovations, 338-345.
- [4]. Altman, E. I., & Sabato, G. (2005). *Effects of the new Basel capital accord on bank capital requirements for SMEs*. Journal of financial services research, 28(1-3), 15-42.
- [5]. Aslam, M., & Hussain, R. T. (2017). *Impact of Trade Credit on Sales Growth: An Empirical Study Based on Cement Sector of Pakistan*. Sukkur IBA Journal of Economics and Finance, 1(1), 1-12.
- [6]. Becker, G. (2017). *Economic theory*. Routledge.
- [7]. Ben Saada, M. (2018). *The impact of control quality on the nonperforming loans of Tunisian listed banks*, Managerial Auditing Journal, 33(1)2-15.
- [8]. Bodnar, G. M., Giambona, E., Graham, J. R., & Harvey, C. R. (2019). *A view inside corporate risk management*. Management Science.
- [9]. Brealey, Richard C. & Stewart C. Myers. (1991). *Principles of Corporate Finance*. 4th ed. McGraw Hill-Inc.
- [10]. Chi, Q., & Li, W. (2017). *Economic policy uncertainty, credit risks and banks' lending decisions: Evidence from Chinese commercial banks*. China journal of accounting research, 35-40.
- [11]. Crutchley, C. and Jensen, M. (1996), *Changes in Corporate Debt Policy: Information Asymmetry and Agency Factors*, Managerial Finance, 22(2)1-15.
- [12]. Dhrymes, P. J. (2017). *Portfolio theory: origins, Markowitz and CAPM based selection*. In *Portfolio Construction, Measurement, and Efficiency* (39-48). Springer, Cham.
- [13]. Elisa, M., and Paolucci, P., (2016). *The determinants of bank financial performance: empirical evidence from European banking sector*, Journal of Financial Reporting and Accounting, 14(1)86-115
- [14]. Essendi, L. K. (2013). *The effect of credit risk management on loans portfolio among Saccos in Kenya*. Unpublished MBA project University of Nairobi.

- [15]. Evstigneev, I., Hens, T., & Schenk-Hoppé, K. R. (2015). Capital Asset Pricing Model (CAPM). In *Mathematical Financial Economics* (53-59). Springer, Cham.
- [16]. Fernandez, P. (2015). CAPM: an absurd model. *Business Valuation Review*, 34(1), 4-23.
- [17]. Gama, A. P., & Auken, H. (2015). The interdependence between trade credit and bank lending: commitment in intermediary firm relationships. *Journal of Small Business Management*, 53(4)886-904.
- [18]. Ghosh, A. (2017), Impact of nonperforming loans on US product and labor markets", *Journal of Financial Economic Policy*, 9(3)302-323.
- [19]. Gordon, M. J. (1971). Towards a theory of financial distress. *The Journal of Finance*, 26(2), 347-356.
- [20]. Kaiser, M. G., El Arbi, F., & Ahlemann, F. (2015). Successful project portfolio management beyond project selection techniques: Understanding the role of structural alignment. *International Journal of Project Management*, 126-133.
- [21]. Kalunda, E., Nduku, B., & Kabiru, J. (2012). Pharmaceutical manufacturing companies in Kenya and their credit risk management practices.
- [22]. Karagu, J. M., & Okibo, B. (2014). Financial factors influencing performance of Savings and Credit Co-operative Organization in Kenya. *International Journal of Academic Research in Accounting, Finance and Management Sciences*, 295-300.
- [23]. Kariu, J. K., & Mungai, J. (2018). Risk management and level of performance of unsecured loans in commercial banks in Nanyuki town, Kenya. *International Academic Journal of Economics and Finance*, 370-384.
- [24]. Kithinji, A. M. (2010). Credit risk management and financial performance of commercial banks in Kenya.
- [25]. Kumar, R., Stauvermann, P., Patel, A. and Prasad, S. (2018), "Determinants of nonperforming loans in banking sector in small developing island states", *Accounting Research Journal*, 31 (2)192-213
- [26]. Lagat, F., Mugo, R., & Otuya, R. (2013). Effect of credit risk management practices on lending portfolio among savings and credit cooperatives in Kenya.
- [27]. Lee, Y., Dato Haji Yahya, M., Habibullah, M. and Mohd Ashhari, Z. (2019), Nonperforming loans in European Union: country governance dimensions, *Journal of Financial Economic Policy*
- [28]. Li, J., & Zinna, G. (2018). How Much of Bank Credit Risk Is Sovereign Risk? Evidence from Europe. *Journal of Money, Credit and Banking*, 1225-1269.
- [29]. Lutz, F. (2017). *The theory of interest*. Routledge.
- [30]. Macharia, J. (2012). The Relationship between the Level of Nonperforming Loans and the Financial Performance of Commercial Banks in Kenya. Unpublished MBA Project.
- [31]. Mitchell, W. F. (1923). "The Institutional Basis for the Shiftability Theory of Bank Liquidity". *University Journal of Business*. JSTOR 2354871.
- [32]. Morton, W. A. (1939). "Liquidity and Solvency". *The American Economic Review*. 29 (2): 272–28
- [33]. Mporu, T. R., & Nikolaidou, E. (2018). Determinants of credit risk in the banking system in Sub-Saharan Africa. *Review of development finance*, 141-150.
- [34]. Muriithi, J. G., & Waweru, K. M. (2017). Liquidity risk and financial performance of commercial banks in Kenya. *International journal of economics and finance*, 9(3), 256-265.
- [35]. Musyoki, D., & Kadubo, A. S. (2017). The impact of credit risk management on the financial performance of banks in Kenya for the period. *International Journal of Business and Public Management*, 70-79.
- [36]. Mutua, J. (2015). Effect of mitigating credit risk on performance of commercial banks in Kenya: A case of Chuka town. *European Journal of Business and Social Sciences*, 113-125.
- [37]. Mwangi, G. (2012). The effect of credit risk management on the financial performance of commercial banks in Kenya. Unpublished Thesis, University of Nairobi.
- [38]. Nyambere, F. k. (2013). Effect of credit risk management on financial performance of deposit taking savings and credit cooperative societies in Kenya. Unpublished MBA Project, University of Nairobi.
- [39]. Opler, T., & Titman, S. (1993). The determinants of leveraged buyout activity: Free cash flow vs. financial distress costs. *The Journal of Finance*, 48(5), 1985-1999.
- [40]. Ozili, P. (2019), "Nonperforming loans in European systemic and non-systemic banks", *Journal of Financial Economic Policy*.
- [41]. Pedrono, J. (2015). Banking leverage procyclicality: a theoretical model introducing currency diversification.
- [42]. Piatti, D. and Cincinelli, P. (2019), "Does the threshold matter? The impact of the monitoring activity on nonperforming loans", *Managerial Finance*, Vol. 45 No. 2, pp. 190-221.
- [43]. Prochnow, H. V. (2018). "Bank Liquidity and the New Doctrine of Anticipated Income". *The Journal of Finance*. 4 (4): 298–314. doi:10.1111/j.1540-6261.1949.tb02358.x.
- [44]. Prokopowicz, S. Gwoździewicz, (2017). Determinants of Credit Risk Management in the Context of the Development of the Derivatives Market and the Cyclical Conjunction Economic Processes (in :) "International Journal of Small and Medium Enterprises and Business Sustainability 2(3)2017,
- [45]. Purnanandam, A. (2008). Financial distress and corporate risk management: Theory and evidence. *Journal of Financial Economics*, 87(3), 706-739.
- [46]. Reigl, N. and Uusküla, L. (2021), "Alternative frameworks for measuring credit gaps and setting countercyclical capital buffers", *Journal of Financial Economic Policy*, Vol. 13 No. 2, pp. 161-179.
- [47]. Richardson, K., & Snyder. (2018). Credit risk analysis of American banks from 2012-2017. *New York commercial banking*.

- [48]. Salike, S., and Biao A., (2018) "Determinants of bank's financial performance: role of poor credit standards in Asia", *China Finance Review International*, Vol. 8 Issue: 2, pp.216-231.
- [49]. Samuel, O. L. (2015). The effect of credit risk on the performance of commercial banks in Nigeria. *African Journal of Accounting, Auditing and Finance*, 29-52.
- [50]. Tan, C., Christos F., John A., (2017) "The financial performance of Chinese banks: impacts of risk, competition and efficiency", *Review of Accounting and Finance*, Vol. 16 Issue: 1, pp.86-105.
- [51]. Tily, G. (2016). *Keynes's General Theory, the Rate of Interest and Keynesian Economics*. Springer.
- [52]. Wasiuzzaman, S., and Gunasegavan, U., (2013). Comparative study of the performance of Islamic and conventional banks: The case of Malaysia", *Humanomics*, Vol. 29 Issue: 1, pp.43-60.
- [53]. Watson, D. and Head, A. (2016) *Corporate Finance: Principles and Practice*, 7th edition, Pearson Education Limited, Harlow pp.258-9.
- [54]. Yazdanfar, D., & Öhman, P. (2016). The impact of trade credit use on firm financial performance: empirical evidence from Sweden. *Journal of Advances in Management Research*, 13(2), 116-129
- [55]. Zheng, C., Xu, T. and Liang, W. (2012), "The empirical research of banks' capital buffer and risk adjustment decision making: Evidence from China's banks", *China Finance Review International*, Vol. 2 No. 2, pp. 163-179.