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# EFFECT OF FINANCIAL RISK ON THE FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN KENYA LISTED ON THE NAIROBI STOCK EXCHANGE

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**ABSTRACT**

*The general objective of this research was to investigate how financial risk affects the financial performance of commercial banks listed in the Nairobi Stock Exchange in Kenya. The independent variables in this study were; credit risk, market risk, liquidity risk and operational risk. The dependent variable was financial performance. The research targeted a population of all the 44 commercial banks in Kenya. The study had a sample population of the 11 listed commercial banks in the Nairobi Stock Exchange. The study conducted the research for a 5 year period between 2014-2018. The research design used during the study was descriptive. Secondary data for the 11 commercial banks was obtained from published bank's financial statements and annual reports. Analysis of the data was done using the multiple regression model. The data collected was coded using SPSS and fed to excel data collection instrument. The analysed data was presented in form of tabulations, mean and standard deviation. The findings of the research obtained that credit risk, market risk and operational risk had a significant negative effect on financial performance, while liquidity risk had a negative insignificant effect on financial performance. The effect of financial risk on financial performance as measured by the four variables was found to be negative and significant. The study recommended that commercial banks should reduce the level of non-performing loans so as to manage credit risk, commercial banks should develop policies that enable a good environment for operation so as to manage market risk, commercial banks should adhere to statutory requirements on liquidity risk so as to control and manage liquidity risk and the managers of commercial banks should reduce their operating expenses so as to improve their shareholders wealth which will lead to managing operational risk. The study concluded that the relationship that exists between financial risk and the financial performance of commercial banks is significantly negative.*

***Key Words:*** *Credit, Market, Liquidity, Operational Risk, Financial Performance*

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## INTRODUCTION

Financial risk is whereby returns vary or fluctuate unexpectedly. There are many types of financial risks such as equity risk, liquidity risk, market risk, currency risk, asset-backed risk, foreign exchange risk, credit risk among others. These risks contribute negatively in terms of how an organization will perform financially (Gathiga 2016). Financial risk usually leads to the collapse and underperformance of financial institutions if they are not handled. Financial risks normally lead to financial crisis if they are not managed which leads to poor performance of firms and lowers the economy of a country and hence the living standards of people. These risks should be managed and regulated by firms and institutions so as to improve profitability and reduce losses.

Risk management is the process whereby organisations use the necessary tools so as to hedge risk and prevent it from occurring. Risk plays an important role in organisations as it makes the managers be keen in monitoring the financial patterns. It is however important for institutions to manage risk so as to prevent uncertainties on the returns and profits to expect. All firms worldwide are exposed to financial risk hence they should take the necessary steps to prevent it. Banks for instance should take the necessary precautions to avoid experiencing financial crisis, which may lead to the loss of customers. These will enable the banks to operate on a longer period without running into debt. According to Diffu (2011) the crisis experienced worldwide during the period 20017 to 2009 affected the financial steadiness and their economic performance, but it sharpened banks on the importance to hedge against risk by implementing the necessary methods.

Financial performance refers to a firm's ability to manage strategies and important decisions so as to achieve its objectives, goals and obtain high returns. In the contribution of a country's development economic wise banks contribute a lot as its part of the financial system. Therefore the financial performance of banks is very important as it also boosts the living standards of people at large. There have been many studies done on performance on financial institutions such as banks. The findings of these studies indicate different outcomes on financial performance globally (Doliente, 2003).

According to the CBK a commercial bank is an institution which conducts banking business in Kenya. In Kenya there are 44 banks; whereby 31 are locally owned and 13 are foreign owned. The banks which are locally owned, comprises of three banks with substantial shareholding by the state corporations and also the government of Kenya, 27 of them are commercial banks whereas one is a mortgage finance institution, Housing finance. The commercial banks listed in the NSE are 11 namely; Barclays bank of Kenya, CFC stanbic holdings, Diamond trust bank group, Equity group holdings limited, Housing finance company of Kenya, I&M holdings limited, Kenya commercial bank group, National bank of Kenya, National Industrial credit bank, Standard chartered bank of Kenya, and Co-operative bank of Kenya. The Commercial banks in Kenya are usually governed by the Banking Act Chapter 488 (current edition handed over in September 2015), the Central Bank of Kenya Act (Cap, 491) and regular circulars and strategies issued often.

### Statement of the Problem

Financial performance is defined as the ability of an enterprise to produce new resources, from activities that are carried out of a daily basis over a given period of time. The performance is usually evaluated by the net amount of income and cash obtained from operations. According to Toutou and Xiaodong (2011), financial performance refers to a bank's ability to utilise its capital so as to obtain revenue. The reason for research on how financial risk affects the way commercial banks in Kenya perform financially, was because a bank's functionality is


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shown by the way it performs financially over a given period of time which can assist in comparing the performance of one bank with the performance of other different banks. The research was based on a 5 year period between 2014-2018.The reason for the five year period is so as to obtain more accurate results, since it's a narrow period of time as compared to researching on a wider period of time which may alter with results accuracy.

Published accounts for the 11 listed commercial banks in the NSE were used during the study. Listed banks were used so as to narrow the scope of commercial banks in Kenya since there are 44 commercial banks in total, to 11 commercial banks hence promote accurate results.The financial performance was measured using return on assets.The research measured the financial performance of listed commercial banks in the NSE based in Kenya. The research intended to look at how credit risk, market risk, liquidity risk, and operational risk affects financial performance of commercial banks. According to BCBS (2015) banks should consider relationship between various risks and should detect, measure, monitor and control risk with the aim of maintaining adequate capital against risks and compensate for risks incurred. Thus minimum capital is required to absorb losses in continued operations; however in the recent crisis the losses experienced by banks exceeded a minimum capital requirement which was attributed to financial risk (BCBS, 2009, 2010).

Related studies done in the past have focused on the various aspects of risk in Kenyan commercial banks. For instance the findings of (Gathiga 2016; Muteti, 2014; Mwangi 2014) showed a significant negative effect of financial risk on financial performance. Akonga2014; Lukorito, Muturi, Nyang'au & Nyamasege 2014; Tarus, Chekol & Mutwol 2012) results of the study showed that there is a significant positive relationship between financial performance and financial risk management. Others such as Maniagi (2018) had mixed findings were the relationship between interest rate risk and market risk and performance was significantly negative and the relationship between financial performance and credit risk was significantly positive.

Many researches have done on the effect of financial risk on financial performance, but there have been incomplete and confusing results on the studies. This is because some researchers obtain that the relationship between financial risk and financial performance to be positive, others obtain a negative, while other researchers obtain a mixed relationship (both positive and negative). This study thus sought to fill this gap, by examining the effect of financial risk on the financial performance of commercial banks in Kenya listed on the Nairobi Stock Exchange. The research question that the study sought to answer was: What is the effect of financial risk on the financial performance of commercial banks in Kenya?

**Study Objectives**

The general objective of this study was to investigate how financial risk affects financial performance of commercial banks in Kenya listed on the NSE. The specific objectives were:-

- To establish the impact credit risk has on how commercial banks in Kenya perform financially.
- To establish the impact market risk has on how commercial banks in Kenya perform financially.
- To establish the impact liquidity risk has on how commercial banks in Kenya perform financially.
- To establish the impact operational risk has on how commercial banks in Kenya perform financially.

**Hypothesis**

- The effect of credit risk on the financial performance of commercial banks in Kenya is significantly negative.

- The effect of market risk on the financial performance of commercial banks in Kenya is significantly negative.
- The effect of liquidity risk on the financial performance of commercial banks in Kenya is significantly negative.
- The effect of operational risk on the financial performance of commercial banks in Kenya is significantly negative.

## LITERATURE REVIEW

### Theoretical Literature Review

#### Capital Market Theory

It was first invented by Markowitz(1952), in this theory, Markowitz argues that investors while constructing and developing their portfolios, concentrated on the risks and rewards of their individual securities. This theory has since been applied by industries since the 1980s on market risk, therefore being able to manage their risks such as market and interest rate risks exposures by using value at risk models. This method, regardless of the different approaches used by organizations, involves assessing exposures of credit risk, implementing a rating of credit risk, and determines the results so as to identify the expected losses of a portfolio.

Contingent on the types of variations determined, identifying credit, reviewing credit, and management rating system of credit risk can sort essential changes to policies of the portfolio. Approaches such as asset by asset method are very important at managing credit risks. According to Mason and Roger (1998), companies can gain better insight in credit risk by using the asset-asset approach. Portfolio theory helps in knowing the aspects reward and systematic risk. It therefore promotes better management of firms which in return promote the yielding of higher returns and hedging against risks hence reducing the probability of obtaining losses.

#### Finance Distress Theory

Corporate distress was first classified and modeled in 1996 by beaver. He noted that financial distress as liquidation, bankruptcy, mergers absorption or major structural changes to a company. In this grey area where prediction of financial distress is difficult there is an overlap between non failed and failure. In most studies filling of bankruptcy occurs where the business deteriorates making it hard to meet its obligations on the short term when they become outstanding as the key factor (Balwin & Scott, 1983)

Financial distress is accompanied by many factors including failure to pay debts when due, reduction or failure to pay dividends, current liabilities maturing faster than current assets , these activities may occur just before the payments due for outstanding debts (Whitaker, 1999). Boritz (1991) asserts that financial distress is characterised with bad economic conditions coupled with poor financial risk management. The ability of commercial banks to provide cash to investors and conditions that make depositors to rush to withdraw their deposits causing bank run should be monitored as this will put the bank in liquidity problems hence liquidity risk.

#### Extreme Value Theory

According to Paul Embrechts (1999), Extreme value theory (EVA) is a statistics branch that handles the distributions of probability by making sure the extreme values of the medians are taken into consideration. It looks at the trend of a sample so as to observe any extreme values not observed in the previous periods. Several losses are associated with financial industries such as insurance companies and banks, whereby insurance companies often compensate for these losses.

It is therefore important according to this theory to ensure that the industries use the necessary risk management tools so as to avoid such risks. EVA takes into notice operational risk and offers some of the ways in which this risk can be controlled and managed by taking the necessary security measures


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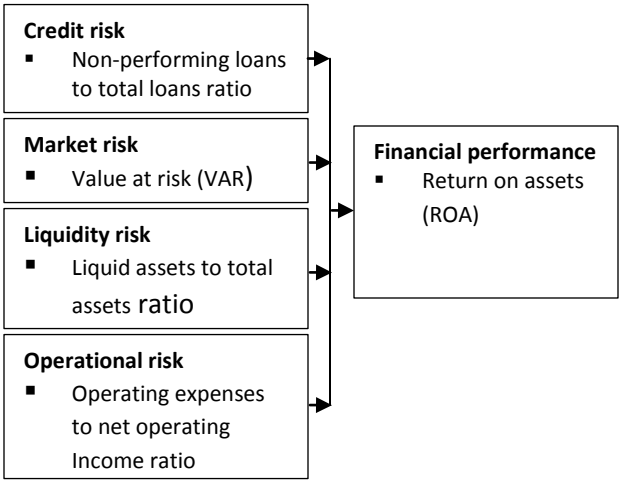
concerning the risk so as to improve the financial performance of an industry .Hence its essential on the prevention and management of operational risk.

**Information Asymmetry Theory**

This theory was first introduced by George A. Akerlof in 1970 on the paper; The Market for "Lemons". He explained the theory by developing the concept of information asymmetry using the example of the auto mobile market, by explaining that when a buyer is buying a car from the seller, he is usually not aware about the problems that car might be having, but the person who is selling the car to the buyer, is usually aware about the defects of that car, but he does not explain that hidden information to the buyer. This therefore gives the seller the ability to sell the car at a higher price than the normal price.

**Conceptual Framework**




**Independent variables** **Dependent variable**

**Figure 1: Conceptual Framework**

**Source: Author (2019)**

**Empirical Literature Review**

**Credit Risk**

Oludhe (2011) investigated on the impact managing credit risk had on the way commercial banks in Kenya performed financially. The study undertook a causal research design, by collecting secondary data from the CBK website. The study had a target population of 42 commercial banks and hence it applied a population census on the study. Regression analysis was used to analyse the data, and the findings were presented in the form of regression equations and tables. Findings of the research indicated a negative relationship on liquidity, asset quality, capital adequacy and management efficiency on the financial performance (ROE) and the relationship between earnings on financial performance was positive. The recommendations of the study were that banks should minimize their operational costs so as to yield more returns and therefore improve financial performance.

**Market risk**

Wachiaya (2011) researched to examine the management techniques of market risk used by commercial banks in Kenya and if they are suitable for reducing financial loss. The study carried out a census study. 43 commercial banks made up the targeted population. Primary data was used to collect data by use of questionnaires. The results obtained by the researcher explained that adopting limits reduced the exposure of risk.

Pariyada (2013) conducted a research on stock returns sensitivity for Thai commercial banks. The study adopted GARCH approach. Secondary data was used during the research. Market risk was measured using Value at Risk(VAR).The findings of the study was that the bank stock returns was highly influenced by market risk, the relationship was found to be positive. The research found that the higher the market power in banks the higher the profitability, and the lower the market power the lower the profitability.

**Liquidity risk**

Maaka (2013) conducted an investigation to know the relationship existing between liquidity risk and how the commercial banks in Kenya performed financially. The researcher used secondary data by collecting information from the respective financial statements

of the banks, by adopting a correlation research design. The study was conducted between the period 2008-2012.The data obtained was analysed by use of multiple regression model. The study recommended that banks should encourage the deposits of customers as it was found to positively affect the returns of banks. The researcher obtained that liquidity risk negatively influenced the performance of commercial banks.

**Operational risk**

Mathuva (2009) examined how profitability of commercial banks in Kenya was influenced by Capital Adequacy, Cost Income Ratio. Profitability was measured by return on equity and return on assets. The study was conducted from the period 1998-2007.44 of the commercial banks formed the targeted population by the researcher, and 41 of the commercial banks formed the sampled population. Secondary data was used during the research obtained from the financial statements of the banks. The findings of the study were that the relationship between Cost-Income ratio (CIR) and return on assets and return on equity was inverse. Cost-income ratio was also found to be negative and have a strong significance on measures of profitability.

**Financial risk**

William (2012) studied to investigate the effect managing financial risk had on the manner commercial banks in Kenya performed financially. The researcher of this study used descriptive survey research design in conducting the study. 42 commercial banks formed the targeted population of the study. The researcher used primary data in conducting his research by use of questionnaires by asking the questions on 107 employees of the specific banks as it was the sample population of the study. Data for the research was collected for the period 2008-2012.The collected data were analysed by use of the regression model. The research obtained results which indicated that there was a positive relationship between the independent and the dependent variables.

## METHODOLOGY

This study used descriptive research design. Descriptive research design can either be observational, case study or survey method. Observational method involves directly observing a case scenario so as to obtain information. The target population of the study involved all the 44 commercial banks in Kenya. In analyzing the secondary data, the study used descriptive statistics on the collected data. After analyzing the data, it was presented in form of tabulations, mean and standard deviation. The analytical model used in the study so as to test on the relationship that exists between financial risk and financial performance of commercial banks in Kenya was as illustrated below:

$Y = \beta o + \beta 1X1 + \beta 2X2 + \beta 3X3 + \beta 4X4 + \varepsilon$

Where:

Y = Financial performance of commercial bank (Measured by return on assets (ROA)

X1=Credit risk (Measured by Non-performing loans to total loans ratio)

X2=Market risk(Measured by Value at risk(VAR)

X3=Liquidity risk (Measured by Total assets to liquid assets ratio)

X4=Operating risk (Measured by operating expenses to net operating income ratio)

## FINDINGS

**Descriptive Analysis**

The descriptive statistics gives a representation of the mean, minimum and maximum values of variables presented along with standard deviations. Table 1 below showed the statistics of the variables used. An output of all the variables was extracted using SPSS software between a five year time frame (2014 to 2018) on an annual basis.

The highest value for financial performance was 4.78% while the lowest value was -0.96%. The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following measure of central tendency was exhibited; a mean of 2.53%. Also, the value of the standard deviation depicts variability in the financial performance of ±1.31%. The data in the series exhibits a normal distribution because the skewness value of 0.56 lies within the range of -0.8 to +0.8. This implies that commercial banks listed in the NSE are generally profitable because their average ROA is positive even after factoring in the aspect of standard deviation.

The findings further exhibited that the highest value of the credit risk ratio was 0.57, while the lowest value was 0.01. The following measure of central tendency was exhibited; a mean of 0.09. Also, the value of the standard deviation depicts variability in the credit risk ratio of ±0.11. The data in the series exhibited a normal distribution because the skewness value of 0.04 lied within the range of -0.8 to +0.8. This implied that the credit risk of commercial banks listed at the NSE is moderate going by the mean ratio. However, the great variability in the ratio displayed by the standard deviation indicates that the various banks have varying levels of non-performing loans, depending on their controls and risk management measures. Thus, this variable is more likely to affect performance because the higher the non-performing loans relative to the total loan book, the higher the expenses and the less the profit keeping other things constant.

The highest value of market risk was 64.92, while the lowest value was -8.46. The following measure of central tendency was exhibited; a mean of 3.55. Also, the value of the standard deviation depicts variability in the value at risk of ±9.36. The data in the series exhibited a normal distribution because the skewness value of -0.002 lies within the range of -0.8 to +0.8. This implied that the value at risk of commercial banks listed at the NSE is moderate going by the mean value. However, the great variability in the value displayed by the standard deviation indicated that the various banks had varying levels of risk of loss in market, share depending on their management and strategic management practices. Thus, this variable is more likely to affect performance because loss in market share will lead to decreased revenue therefore leading to a reduction in profit all factors kept constant.

The highest value of the liquidity ratio was 109.97, while the lowest value was 2.67. The following measure of central tendency was exhibited; a mean of 15.74. Also, the value of the standard deviation depicted variability in the liquidity risk ratio of ±21.89. The data in the series exhibited a normal distribution because the skewness value of 0.07 lied within the range of -0.8 to +0.8. This implied that the liquidity risk of commercial banks quoted at the NSE was quite high the mean ratio, which was far greater than the standard liquidity ratio of 2. However, the great variability in the ratio displayed by the standard deviation indicated that the various banks had varying levels of liquidity risk, depending on each individual banks working capital management practices. Thus, this variable was more likely to affect performance because the higher the liquidity ratio, the lower the profitability other factors being kept constant.

The final results from the findings point out that the operating risk variable was 66.77, while the lowest value was -7.92. The following measure of central tendency was exhibited; a mean of 2.8. Also, the value of the standard deviation depicts variability in the variable of ±9.24. The data in the series exhibits a normal distribution because the skewness value of -0.5 lied within the range of -0.8 to +0.8. This implied that the operating risk of commercial banks listed at the NSE is moderate going by the mean ratio. However, the great variability in the ratio displayed by the standard deviation indicated that the various banks had varying levels of operating risk, depending on their controls, strategic management practices, and risk management measures. Thus, this variable was more likely to affect performance because the

higher the operating expenses, the lower the profit keeping other things constant.

**Table 1: Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation | Skewness |
|---|---|---|---|---|---|---|
| Financial performance | 55 | -.0096 | .0478 | .025285 | .0130543 | .5623 |
| Credit risk | 55 | .0116 | .5650 | .094124 | .1047837 | .0345 |
| Market risk | 55 | -8.4617 | 64.9176 | 3.550413 | 9.3577804 | -.0024 |
| Liquidity risk | 55 | 2.6649 | 109.9665 | 15.737095 | 21.8915539 | .0657 |
| Operating risk | 55 | -7.9233 | 66.7789 | 2.799229 | 9.2367248 | -.4982 |
| Valid N (listwise) | 55 | | | | | |

**Source: Research Findings (2019)**

**Table 2: Multicollinearity Test**

| | **Collinearity Statistics** | |
|---|---|---|
| **Variable** | **Tolerance** | **VIF** |
| Credit risk | 0.646 | 1.434 |
| Market risk | 0.398 | 1.982 |
| Liquidity risk | 0.388 | 1.422 |
| Operating risk | 0.376 | 1.398 |

**Source: Research Findings (2019)**

VIF value and Tolerance of the variable were utilized where the values below 10 for VIF and values more than 0.2 for Tolerance imply no Multicollinearity. From the results, all the variables had a VIF values <10 and tolerance values >0.2 as illustrated in table 2 suggesting that no Multicollinearity.

**Table 3: Normality Test**

| | Kolmogorov-Smirnov[a] | | | Shapiro-Wilk | | |
|---|---|---|---|---|---|---|
| ROA | Statistic | Df | Sig. | Statistic | Df | Sig. |
| Credit risk | .173 | 55 | .300 | .918 | 55 | .822 |
| Market risk | .180 | 55 | .300 | .894 | 55 | .790 |
| Liquidity risk | .176 | 55 | .300 | .892 | 55 | .784 |
| Operating risk | .181 | 55 | .300 | .896 | 55 | .792 |

a. Lilliefors Significance Correction

**Source: Research Findings (2019)**

**Table 4: Autocorrelation Test**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .732[a] | .536 | .499 | .561422 | 1.924 |

a. Predictors: (Constant), Ln OR, Ln LR, Ln MR, Ln CR

b. Dependent Variable: Ln ROA

**Source: Research Findings (2019)**

**Table 5: Heteroskedasticity Test**

| | | | |
|---|---|---|---|
| F-statistic | 5.332026 | Prob. F(4,55) | **0.1012** |
| Obs*R-squared | 16.51327 | Prob. Chi-Square(4) | 0.0024 |
| Scaled explained SS | 27.94768 | Prob. Chi-Square(4) | 0.0000 |

**Source: Research Findings (2019)**

**Correlation Analysis**

**Table 6: Correlation Analysis**

| | | Ln ROA | Ln CR | Ln MR | Ln LR | Ln OR |
|---|---|---|---|---|---|---|
| Ln ROA | Pearson Correlation | 1 | | | | |
| | Sig. (2-tailed) | | | | | |
| Ln CR | Pearson Correlation | -.551** | 1 | | | |
| | Sig. (2-tailed) | .000 | | | | |
| Ln MR | Pearson Correlation | -.552** | .561** | 1 | | |
| | Sig. (2-tailed) | .000 | .000 | | | |
| Ln LR | Pearson Correlation | -.169 | -.094 | .256 | 1 | |
| | Sig. (2-tailed) | .217 | .496 | .060 | | |
| Ln OR | Pearson Correlation | -.727** | .625** | .620** | .124 | 1 |
| | Sig. (2-tailed) | .000 | .000 | .000 | .367 | |

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

b. Listwise N=55

**Source: Research Findings (2019)**

**Regression Analysis**

**Table 7: Model Summary**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .732[a] | .536 | .499 | .561422 | 1.924 |

a. Dependent Variable: Ln ROA

b. Predictors: (Constant), Ln OR, Ln LR, Ln MR, Ln CR

**Source: Research Findings (2019)**

From the output in table 7, the $R^2$ value was 0.536, implying that 53.6 % of the deviations in commercial banks' financial performance listed at the NSE is caused by changes in market risk, credit risk, operating risk and liquidity risk. Other variables not incorporated in the model explain 46.4% of the variations in listed commercial banks' financial performance. The correlation coefficient (R) value of 0.732 showed that there exist a strong relationship between the independent variables included in the study and financial performance.

Table 8 provided the outcomes of the ANOVA, F-test was carried out to establish the significance of the overall model. The formulae for calculating the critical value for the F test was;

$\mathbf{F} = (SSE_1 – SSE_2 / m) / SSE_2 / n\text{-}k$

Where;

SSE = Residual sum of squares,

m = Number of restrictions

k = Number of independent variables.

A critical value of 2.49361595 was obtained from the F-Test tables. The F statistic indicated in the study findings was greater than the critical value, thus the overall model is significant to predict financial performance.

**Table 8: ANOVA**

| Model | | Sum of Squares | Df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 18.212 | 4 | 4.553 | 14.445 | .000[b] |



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| | | | | |
|---|---|---|---|---|
| | Residual | 15.760 | 50 | .315 |
| | Total | 33.972 | 54 | |

a. Predictors: (Constant), Ln OR, Ln LR, Ln MR, Ln CR

b. Dependent Variable: Ln ROA

**Source: Research findings (2019)**

**Table 9: Model Coefficients**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| | (Constant) | -3.397 | .484 | | -7.012 | .000 |
| | Ln CR | -.041 | .161 | -.039 | -.255 | .800 |
| 1 | Ln MR | -.036 | .139 | -.037 | -.261 | .795 |
| | Ln LR | -.066 | .086 | -.081 | -.772 | .444 |
| | Ln OR | -.646 | .171 | -.660 | -3.772 | .000 |

a. Dependent Variable: Ln ROA

**Source: Research Findings (2019)**

The Coefficients are used as an indicator of the magnitude and direction of the relationship between the independent variables and the response variable. The T values were used to establish the significance of the relationship of the independent variable to the dependent variable. The values obtained are contrasted to the critical values. A confidence interval of 95% and a two tailed T test critical value of ±2.04523 was obtained from the T test tables. A T test value that lies out of this range was significant.

The results revealed that credit risk, market risk and liquidity risk have negative but insignificant influence on financial performance as evidenced by (β=-0.041, p=0.800; β=-0.036, p=0.795 and β=-0.066, p=0.444) respectively. The results further revealed that operating risk had a negative and significant influence on financial performance (β=-0.646, p=0.000). The findings also stated that when the four selected independent variable have a zero value, financial performance would be (β=-3.397, p=0.000).

The results revealed that credit risk, market risk and liquidity risk have negative but insignificant influence on financial performance. The findings further revealed that operating risk had a negative and significant influence on financial performance with a coefficient of -0.646. This implied that a unit increase in operating risk would lead to a 0.646 increase in the ROA. The constant coefficient -3.397 implied that when the four selected independent variable have a zero value, financial performance would be equal to the figure.

**Interpretation of Research Findings**

The researcher was seeking to determine the influence of financial risk on the listed commercial banks' financial performance. Credit risk, market risk, liquidity risk, and operations risk were the predictor variables in this study while financial performance of listed banks measured by ROA was the dependent variable. The adequacy of the overall model in predicting financial performance was examined. The influence of each predictor variable on the dependent variable was also examined with respect to strength and direction.

The research findings from the ANOVA table revealed that the overall model was statistically significant. This implies that market risk, credit risk, operating risk and liquidity risk are good predictors of financial performance.

**Credit Risk**

Credit risk was computed by the ratio of NPLs to total loans ratio. The Pearson's correlation coefficient between credit risk and financial performance of quoted banks revealed a moderate negative and significant correlation between the two variables. The multiple linear regressions exhibited an insignificant relationship between credit risk and financial performance of quoted commercial banks. This implies that credit risk has no impact on financial performance.

**Market Risk**

Market risk was computed by value at risk. The Pearson's correlation coefficient between market risk and financial performance of quoted banks revealed moderate negative and significant correlation between the two variables. The multiple linear regressions exhibited an insignificant relationship between market risk and financial performance of quoted commercial banks. This implies that market risk has no impact on financial performance.

**Liquidity Risk**

Liquidity risk was measured by total assets to liquid assets ratio. Market risk was computed by value at risk. The Pearson's correlation coefficient between liquidity risk and financial performance of quoted banks revealed weak, negative and insignificant correlation between the two variables. The multiple linear regressions exhibited an insignificant relationship between liquidity risk and financial performance of quoted commercial banks. This implies that liquidity risk has no impact on financial performance.

**Operating Risk**

Operating risk was measured by operating expenses to net operating income ratio. The Pearson's correlation coefficient between operating risk and financial performance of quoted banks revealed a strong negative and significant correlation between the two variables. The multiple linear regressions exhibited a significant negative relationship between operating risk and financial performance of quoted commercial banks. This implies that operating risk has an impact on financial performance, an increase in operating risk leads to decreased financial performance.

**CONCLUSION**

It was concluded from this study that credit risk as measured by the ratio of non-performing loans to total gross loans has a negative and statistically significant relationship with performance of commercial banks. This implies that when non-performing loans are increasing, performance is likely to be going down. This expected relationship can be caused by the high costs associated with collection of non-performing loans, the probability of losing the amount associated as credit and regulatory controls available that make it difficult to collect the bad debts.

It was concluded from this study that market risk as measured by the value at risk has a negative and statistically significant relationship with performance of commercial banks. This implies that when market risk is increasing, performance is likely to be going down. This relationship can be caused by the fact that an increase in market risk such as political turmoil, recessions, changes in interest rates and natural disasters is likely to affect borrowers and depositors negatively leading to lost business for the bank and eventually low reduced performance.

From the results of both correlation and regression analysis, it was concluded that liquidity risk as measured by ratio of total assets to liquid assets have no significant correlation with performance of commercial banks quoted at the NSE. Although the relationship is negative implying that an increase in liquidity risk can lower performance, this relationship is not significant. This can be explained by the fact that the banks are required by the Central Bank of Kenya to meet certain statutory requirements

relating to liquidity and therefore they are not at any liquidity risk provided they meet the required statutory levels of liquidity.

It was concluded from this study that operating risk as measured by the ratio of operating expenses to net operating income has a negative and statistically significant relationship with commercial banks' performance. This implies that when operating expenses are increasing, performance is likely to be going down. This expected relationship can be explained by the fact that an increase in operating expenses without a corresponding increase in operating revenue leads to reduction in operating income and eventually overall financial performance.

From the available empirical evidence, it can be concluded that overall performance of banks quoted at the securities market is significantly affected by financial risk as represented by credit, market, liquidity and operating risk. The following can also be concluded about individual study variables.

**RECOMMENDATIONS**

It was recommended that the government should not prioritize credit risk when crafting policies on profitability. It can also be recommended to financial institutions, and their boards that credit risk should not be considered when carrying out strategic management practices to boost profitablity. Thus, it is not necessary to adopt sufficient measures by managers of these banks to raise their performance by reducing the level of NPLs in their books and they should prioritize other factors. This is can be attributed to the insurance covers taken out on loans where the banks are reimbursed by the insuring agency in case of default. However, the findings also indicated a significant negative correlation between credit risk and financial performance. Thus, listed banks and all banks in general should work on increasing their asset quality by undertaking measures such as stringent vetting of customers and other controls.

It was recommended that the government should not prioritize market risk when crafting policies on profitability. It can also be recommended to financial institutions, and their boards that market risk should not be considered when carrying out strategic management practices to boost profitability. Thus, it is not necessary to adopt sufficient measures by managers of these banks to raise their performance by targeting to improve their market share and they should prioritize other factors. However, the findings also indicated a significant negative correlation between market risk and financial performance. Futher recommendations of this study is that the government of Kenya should develop policies that create a conducive environment for commercial banks to operate in since it will translate to improved performance of the banks and eventually economic growth of the country through the help of policy makers such as the CBK.

It was recommended that the government should not prioritize liquidity risk when crafting policies on profitability. It can also be recommended to financial institutions, and their boards that liquidity risk should not be considered when carrying out strategic management practices to boost profitability. Thus, it is not necessary to adopt sufficient working capital measures by managers of these banks to raise their performance by targeting to reducing their liquidity position. However, the findings also indicated a significant negative correlation between liquidity risk and financial performance. Futher recommendations of the study are that a comprehensive assessment of a firm's immediate liquidity position should be undertaken before investing in a long term project as firm's liquidity has been discovered to be a significant determiner of performance and banks need to adhere with statutory requirements on liquidity as this is likely to lower their liquidity risk.

The study recommendations were that policy makers and directors of commercial banks in Kenya should devise measures to check and improve efficiency by


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reducing operating expenses to sustainable and reasonable levels, as low operating expenses are likely to increase the performance of a bank which translates to increased shareholders wealth.

**Suggestions for Further Research**

A suggestion was given that more research ought to include a qualitative analysis of the relationship between financial risk and performance of banks quoted at the NSE. That study would deal with interviewing of vital respondents in the listed banks and this would reveal concealed insights into the fine detailed relationship between financial risk and performance of listed banks.

The study didn't exhaust all the independent variables influencing performance of Kenyan commercial banks and a recommendation is given that more studies be carried out to constitute other variables for instance management efficiency, industry practices, growth opportunities, political stability and age of the firm. Determining the impact of each variable on financial performance shall enable the policy makers to understand the tools that can be used to control performance.

The research only focused on the financial institutions. The study's recommendations are that further studies be carried out on other sectors in Kenya. Finally, as a result of regression models' limitations, other models including the Vector Error Correction Model (VECM) may be applied in explanation of the various relationships among variables.

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