

**RELATIONSHIP BETWEEN INTEREST RATES SPREAD AND
FINANCIAL PERFORMANCE OF COMMERCIAL BANKS IN
KENYA**

BY

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DECLARATION

This research project is my original work and has not been presented for an award of any degree in any university.

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D61/61657/2010

This project proposal has been submitted for examination with my approval as University of Nairobi supervisor.

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DR. KENNEDY OKIRO

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DEDICATION

I dedicate this project to my Family.

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LIST OF ABBREVIATIONS

ANOVA:	Analysis of Variance
BIS:	Bank interest spread
BDD:	Bad and doubtful debts
CAMEL:	Capital, Asset, Management, Earnings & Liquidity.
CBK:	Central Bank of Kenya
EAGLES:	Earning, Asset, Growth, Liquidity, Equity & Strategy
EVA:	Economic Value Added
GAAP:	Generally accepted accounting principles
IRS:	Interest Rate Spread
KBA:	Kenya Bankers Association
KIPPRA:	Kenya Institute for Public Policy Research & Analysis
NOPAT:	Net operating profit after taxes
NPA:	Non Performing Asset
ROA:	Return on Assets
SPSS:	Statistical Package for Social Science

ABSTRACT

The banking society in Kenya has experienced regulatory changes for the last five years. The regulatory guidelines are based on interest rates of credit facilities and deposits interest rates in which are regulated by the interest rate bill 2014 and interest rate bill 2016 through an act of parliament. The bill restricts all commercial banks and other financial institutions to charge interest rate not exceeding 4.00% more than CBK lending rates which stands at 10.00% by August 2016. All financial institutions are in a milestone to maximize on profitability and reduce the operational expenses by considering the interest rates spread. The aim of the study was to establish the relationship between interest rate spread on Kenya commercial banks financial performance. The population of the study constituents of 43 commercial banks in Kenya although two of the banks were under liquidation (Chase and Imperial Bank) and data was collected from CBK bank survey reports and KNBS economic growth reports from 2008 to 2015. Data analysis was done using SPSS (Statistical Package for Social Science) and presented using tables. All variables regression analysis was done to establish the relationship between the interest rate spread and the performance of commercial banks in Kenya. From the study, it was established that there was significant positive relationship between interest rate spread and financial profitability on operational performance among the licensed commercial banks. Increase of loan disbursement on investors is affected by the interest rate spread which contributes to asset growth and profitability. The study recommends that the regulatory of the banks (CBK) develop monetary policies and guidelines to regulate the interest rates on loans and deposits in order to protect the borrowers from exploitation by the commercial banks.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Organizational profitability is determined by the current interest rates within the economy in which many commodities prices are determined, Corb (2012). The rate influences the production cost, service delivery and return on investment to the current and potential investors. Interest rates fluctuation brings impact on the debt ratio of any financial institution, the net expense and cost of capital and accrual loan interest rates. However, it is a series of aspects which affect the degree of capital investment and its net profitability, surplus monies as savings and significant change of the capital investment. Many scholars agree that interest rate is a key factor of financial institution performance, Giovanni (2006).

Theories have explained the relationship of the rates and banks profitability. The loan fund theory which is based on the credit supply due to the interest rates. The credit supply is affected by the number of investors requiring the loans at any given interest. Monies plays a key role in investment development distribution processes hence maintain all levels of income generating investment. Classical theory of interest defines the rates as rewards a bank obtains after providing capital to investors in which is graded as loans. An economy where much physical capital is obtained by maximizing the available funds hence the interest is assumed to be the return on the capital after a period of one years.

Economic growth is influenced by interest rates, FOREX rate and GDP in which the growth is the change of the aspects within a given time. According to Corb (2012) the rates are used in monitoring and evaluation of states economic development by control of exchange rates and inflation. In Kenya Central Bank of Kenya (CBK) controls the interest rates in

which commercial banks charge their customers from loan rates to operational rates. The 2016 interest rate bill requires the banks not to change a rate which is 4.00% above the CBK lending rate which ranges from 8.00%-11.5%. This study will utilize the available data on interest rates to determine its contribution to the financial performance of commercial banks in Kenya.

1.1.1 Interest Rates Spread

According to Mlachila (2002), interest spread is defined as the net difference between the countries investors' savings rate and the financial bank lending rate over a period of time, hence determined by specific financial institutions. Interest rates are the amount an investor pays the bank for accessing credit facilities or a guaranteed asset. However, it is the fee charged by the lending financial institution to a borrower (investor) for the investing credit assets and always expressed in per year of the principle amount. The rates is calculated on the principle amount and paid every month from the time of disbursement considering the value of money and credit risk, (Rojas, 2000).

Interest rate spread is a related with net margin of interest income and expense as percentage of the return on assets since financial market micro structure is based on high risk investment. Monetary money policy applied by CBK controls the spread with minimal interest rates with large banks with minimum spread than the small banks in which large banks takes high risk with optimal rate and decreases the amount of credit allocation, Emmanuelle (2003). The spreads are the calculated interest rates with the niche customers and with analysis of the banking competition which operate in very dynamic environment. In the current financial economic environment, competitive banking services which help

in making the spread minimal, Frenkel (2010). Many financial institutions in the developing countries avoid the spread by specializing in a specific market and customers where they value the status of the business. .

Interest spread affects the service pricing strategy among the financial institutions hence impacts the profitability of the bank. The end year spread determines the competitive spread on the borrowed money by the investors in which is received from the CBK account and must be repaid with profit as a return. The return maintains the CBK operation in managing the banking industry to benefit the investors and general public and regulate the banks which practice monopoly since they experience very high interest spreads.

1.1.2 Bank Financial Performance.

Performance in banking sector can be measured using return on investment (ROI) and return on assets (ROA) which factors all available resources the bank utilized to remain profitable, (Hoand & Saunders, 2001). Other measures are earning before and after taxations, asset depreciations and appreciations, and asset based development. The performance measure analysis can't be factored without the others taken into account. Analysis of the performances the establishing the bank SWOTs by factoring various financial statements like the statement of cash flow, statement of change in owners' equity and statement of income, Chenn (2011)

According to Quarden (2004), financial performance assists the banks to strategies short-term and long-term prediction in future investments by proper analysis of performance trends. To maintain the financial stability, asset growth, profitability prediction in which

financial analyst requires audited financial statements to carry out the prediction. Analysis of financial performance is the evaluation of the relationship between the financial statements in order to get a clear view of the financial performance and position of the bank.

According to Chenn (2011) analysis considers the debtors-creditors ratios, shareholders and investors which are composed on the operational measurement ratios like the asset efficiency ratios, deposit-loans ratios, Loan Non-Performing loans ratios, liquidity ratios, financial efficiency ratios, profitability ratios, solvency ratios and coverage ratios to evaluate the bank's financial performance (Bekana, 2011).

1.1.3 Interest Rates Spread and Bank Financial Performance

Commercial bank activities are mainly and to a great extent intermediation services whereby they act as a bridge between the money institutions and the investors. Bank financial performance is due to the interest rates laid upon the borrowed funds, appreciation and money transfers, (Hoand & Saunders, 2001). Banks also pay interest money to the savings and dividends to the shareholders hence the difference is the rate spread within a given time of trading. The increasing spread on the credits and savings the higher the objectivity of the bank can be accomplished.

Many scholars who related the two variables says for any financial institution to remain profitable it must establish a positive spread and minimize the operational cost and transactions in credit facilities and deposits. Currently many banks are experiencing very low number of deposits hence making a significant effect on the spread especially the key player of the industry. Benston & Smith (1976) concludes that operational expense is the

key aspect in which every bank should minimize in order to get high returns at the end of every trading period. Institutions can purchase large numbers of securities, subdivide them in small portions then sell them at a low cost but very high profit margin hence maintain very high profitability level, (Hoand & Saunders, 2001)

Operational cost explains the benefits of the positive spread in relation with bank profitability strategy since banks play a key role in linking investors, both depositors and lenders. Hence the results of the spread are a critical in analyzing and balancing the depositors and lenders. Hoand & Saunders, (2001) established that to have a constant positive spread is very key for financial institutions as it will guide them in investing on very high risk assets hence concentrate on the credits and savings.

1.1.4 Commercial Banks in Kenya

The Kenyan banking industry has experienced many operational changes due to change in technology and regulations from CBK. The industry operates in a very dynamic environment with many new market participants investing in the risk business, (Ngugi, 2012). Technology has pushed banks to invest many millions of Kenya shillings to have real time system, improve competitive advantage, innovations in new products. Today the industry is operated by forty two commercial banks and one mortgage finance company, in which twenty nine are locally incorporated and thirteen are international banks.

Exchange bureaus are 135 and with the commercial banks regulated by the CBK. Other institutions that deals with the welfare of the banks is the Kenya Bankers Association, KBA which represents all commercial banks in Kenya. Due to competition banks have move

outside major towns to rural areas since no increase in customer base in urban branches. The government had put in place very use friendly condition of the operational banks in Kenya by 2012 which lead to very high number of new small banks and micro-finance institutions to enter the business with an aim of making very high returns. They transferred all operations from major towns to small upcountry towns where farming I key economic activity.

Equity Bank, Co-operative Bank and Family bank have benefited from the agri-business operation in the up country population. The banks have established customer service in which products and service are delivered in the customer's premises, (Ngetich, 2011). The central government in the interest rate bill 2016 reduced the lending rates from 24% to 14% for all loans which is a margin of 4% above the CBK lending rates. This exposed many banks into a risk since lending is the cash cow of all banks. However, it's a key requirement for all banks to have a minimum of 1 Billion deposits with CBK to act a security of the depositors money in which many banks have not maintained the limit, (CBK 2015). Central Bank and ministry of finance proposes a 5 billion deposit of all banks by the end of 2017, if this bill will be passed then, Kenya banking industry will experience the highest number of bank mergers and disclosure since the threshold is very high.

1.2 Research Problem

Interest rate spread among commercial banks is a major factor that determines the effectiveness and efficiency of the bank in offering the service to the customers, (Ngetich 2011). Banking industry in Kenya maintains profitability if the interest rate spread is widely kept. Small banks are increasing in operation by lending since the want to grow

their market share and high returns. Banking narrow spread indicates that high level of savings and hence increases the profitability.

Kenyan economy has witnessed the high rate of inflation and other pressures which has resulted to interest spread. The constant rate on credit facilities and deposits has influenced the rate of investors in borrowing criteria. Interest rate spread change shifts from bank to bank to their clients since banks are revising the interest rates given to the borrowers making lending unstable. The shifts are contributed by the banking competitions among the banks and micro-finance banks hence introductions of different strategic policies in order to meet their goals and objectives.

Many studies have being done on the interest rates spreads and profitability, Were et al (2013) studied the interest rates spread and the exchange rates among commercial banks. Boldbaatar (2006) established that big banks have narrow spread and small banks have wider spreads. Omole (1999) studied on spread and established that small financial institutions have small spread than big banks. Ngugi, (2000) did a study about the relation between the spread and profitability on selected commercial banks in Kenya. Among the studies done none of them as concentrated on the impact of the spread on the performance of commercial banks in Kenya, most of them give the relationship between the two variables. The study will answer the question: Do interest rate spread have any relationship on financial performance among commercial banks in Kenya?

1.3 Research Objective

To investigate the relationship between interest rates spread and financial performance of commercial banks in Kenya.

1.4 Value of the Study

The study will benefit all commercial banks in Kenya since it will provide full information of the relationship of interest rates and the bank financial performance. The study recommendation if practiced by the banks will narrow down the gap between the variables hence benefiting the bank customers.

The study will give the regulator (CBK) of banking industry to have knowledge on how to control interest rates within the industry. Hence make proper regulation and guidelines which will be followed by the all financial institutions concerning the rates. Central Bank of Kenya will be able to monitor the interest rates the banks a charging the borrowers of funds and the interest rates paid to the depositors.

The study result contributes to the current literature reviews for the students, scholars and researchers by establishing the research gaps and knowledge. The study allows a chance of further studies into effect of interest rates spread on financial institutions profitability.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section is organized into four main sections of literature review. The main sections are theoretical review, determinants of the interest rates spread, empirical review and summary of literature review.

2.2 Theoretical framework

The theoretical framework discusses the classical theory of interest, loan fund theory and rational expectation theory of the interest rate.

2.2.1 Classical Theory of Interest

The classical theory of interest rate was delivered by Keynes (1979) and is based on the concepts of the leading and savings investment. This theory holds that investment is balanced on the rate of interest rates borrowers pay to access the credit facilities and the demand and supply of the financial capital available for investment, Caplan (2000). The definition of interest is the financial returns on capital investment by banks which is equal to the asset appreciation with time. The return is supported by the theory when physical and financial capital is invested using the liquid cash, the rate of return is calculated at annual, semi-annual or quarterly over the principal invested amount on the assets, Caplan (2000)

Investment systems demands using the classical theory of interest make potential investors to make decision on investments demand on capital in which capital returns from the deposits from the society. Savings agenda contributes on the supply of the capital follows

that savings and investment are the major determinants of the interest rates, (Fredman, 1991). The theory implicates that different banks have same or different liquidity level and leverage level. The higher the liquidity level, the lower the interest rates and the higher the liquidity level the higher the interest rates hence attracts more credit facilities customers and savings investors since the lending rates are low and saving interest rates are high. The interest rate spread in much liquidity banks have significant low profits as compared to the less liquidity banks, (Rochon & Vernengo, 2001)

2.2.2 Loan Funds Theory

The theory is based on the interest rates and supply of money and demand of credit facilities to the investors hence the theory assumes that rates of interest are affected by the availability of the financial funds. The loan funds theory tries to effect other theories like classical theories which is based on the concepts of the leading and savings investment. This theory holds that investment is balanced on the rate of interest rates borrowers pay to access the credit facilities and the demand and supply of the financial capital available for investment

The theory suggests that funds play a key role of distributing investments and savings which recognizes the variations of levels of income. The monetary policy and non-monetary policy supports the theory to enable banks maximize the credit facilities to the investors, (Wensheng, 2002). According to this theory, the rate of interest offered by the commercial banks is the returns that balance the demand and the supply of the financial support to the investors. Change and shifts of demand-supply of credit funds make the financial institution to determine the rate in which loans will be available to investors

within a specific time of investment. The theory has implications on all financial institution who target the money depositors and money borrowers that a spread of interest rates should not be wide such that investors are in problem on borrowing funds to do investment, (Emmanuelle 2003).

2.2.3 The Rational Expectations Theory

The rational expectation theory is based on the investors' expectations on all investment information available in the market. The information determines the level of investment is done with the stipulated time frame due to the high return expected by the investors. The advantage of the theory is that I estimates the future interest rates based on the past rates model in the current spot rate. Shifts of interested rates are due to the available information and change of other economic factors like exchange rates and GDP.

The rational expectations theory is corporate with other theories in order to get the available information with the current challenges in information collection and understanding how the potential investors maximize the information to form a reliable investment, (Caplan, 2000). The rate of returns expected by investors will be high since the public is avoiding the credit facilities, thus the reaction will affect the bank profitability due to low rate of lending business. However, when interest rates are expected to reduce, many investors will be willing to borrow funds at that given spot time when the rates will be manageable, (Bekaert, 1998).

2.4 Determinants of Interest Rate Spread.

Determinants are the aspects which affect the interest rate spread among the commercial banks in Kenya. They include the market structure, Legal and regulatory framework, taxation and the micro-economic environment.

2.4.1 Market Structure

Market structure can be defined as the market organization and its operation, market characteristics which enables the market to offer best support to market players. According to Rose, (2000), the market organization considers the management of participants both profit making and non-profit making organizations. The structure is also attributing by the regulation from the government on the guidelines applicable in the market, (Njuguna, 2000). The government regulates the sensitive markets like banking where investors can easily loose funds and get losses hence exit the market.

2.4.2 Legal and regulatory frame work

Legal and regulatory frameworks are based on the government participation on the banking sector. The regulator incorporates all monetary policies with an objective of maintaining financial stability and profitability among commercial banks, (Kabubo, 1998). The regulates affects the interest rate spread within a given time of the trading period hence the spread ensures a smaller gap between the lending rates and interest rates on deposits. Through the regulations, banks maintain financial profits and asset growth where the government is the major borrower of funds from local banks.

Every commercial bank is expected to remit its financial statements to CBK at every end of financial year. This enables CBK to check the leverage and liquidity of the bank and give management recommendation to the management and directors, stakeholders of the bank. The managements implement the recommendation and give bank the report on the agreed time. The regulator offers supervision on lending rates which may lead to high interest rates on loan, information asymmetry, and interest spread widening which lowers the investors' confidence on the market. Due to regulation and customer protection the government passed a bank's interest rates bill 2016 which banks are not supposed to charge more than 4.00% of the lending rates of the central Bank, (Kabubo, 1998).

2.4.3 Taxation

Taxation can be defined as the fee charged by any government on individual or company income at every trading period. The taxation money is used by the government to run its budget to offer service to the public, (Kabubo, 1998). Taxation affects the interest rates on loans positively, if the taxation of banks is high, the banks will tend to increase the lending rates to its credit facilities. Banks reserves, liquidity, leverage and interest rates controls are key aspects of rate of taxations.

2.4.4 Exchange Rate

Exchange rate is the value of currency as compared to another currency. Banks facilitate a lot of the money transfers from one country to another due to international business hence exchange rates are the major factor. When exchange rates are high, the investors and banks increases the interest rates charges on the business since many international transactions are carried out using the international currencies like US dollars and Euros.

Exchange rates increases significantly and adversely affects the credit level of the investor and increasing the loan risk hence charged very high interest rates. The rates affects the supply of currencies in the market since demand decreases hence increases the interest rate spread, (Njuguna & Rose, 2000). FOREX money reserve is a requirement by CBK with no interest rate attached tends to give banks very high return when the currency starts fluctuation in the money market.

2.5 Empirical Literature

Empirical literature is discussed on two categories: local and international context. Ngugi & Kabubo (1998) compared all financial sector reforms and interest rates, interest rates levels, spreads and determining factors with a sample of twenty commercial banks in Kenya. Secondary data was collected through published banks reports. The study established that banks financial systems are affected by the external factors like interest rates, lack of effective and inefficiency among the financial banks. The study finally recommended for CBK should put some policies in place to maintain the financial interest rates among banks.

Gavin (2010) on the study of factors affecting banking sector interest rate spread in Kenya. A sample of 15 among the 44 commercial banks which gave a total of 83.3% of total loans between 2002-2009. The study used secondary data from banks website and CBK financial reports and bank surveys and analyzed using SPSS and presented using tables and charts. It was established that banks efficiency is affected by market share, asset based growth, ROA, ROI. The study recommends that the banks should address the factors in order to remain profitable.

Ngetich & Wanjau (2011) on their study about the effect of interest rate spread on the level of non-performing assets in Kenya commercial banks. A survey design in which all 43 commercial banks were considered using descriptive research design and data collected using questionnaires (primary data) and secondary data from CBK Bank supervision report. Data was analyzed through quantitative statistics. The study established that interest rate spread affect asset performance in banks with increase of lending interest rates and lowers the deposits interest rates among investor. It recommended for stumble policies by CBK to control the spread of interest rates.

Ngugi (2013) carried a research on interest rate spread and financial intermediary's inefficiency. A survey design was used where all 43 banks were considered and primary data collated through interview guides. The study revealed that a positive significant on the interest rate spread on efficiency of financial intermediaries. Recommendation on rates control policies by CBK and regulation guidelines to all banks in Kenya will lower the interest rate spread.

Chirwa & Mlachila (2002) studied on bank financial reforms and interest rate spread in the commercial banks in Malawi. A sample of 7 commercial banks and 6 deposit taking institutions (FOSA) and study used both primary data collected through questioners and secondary data collected from published articles. Data was analyzed using SPSS and content analysis. The study found out that the rates spread affected bank reforms at 80% hence increase in liberalization and recommends for policies from the regulator to manage the interest spread.

Wensheng (2002) study on the Impact of Interest Rate Shocks on the Performance of the Banking Sector. A sample of two banks was selected and financial data from 1992-2002 and data collected from the bank published articles data was analyzed using Microsoft excel and content analysis. The study established that interest rates affected the bank performance positively and recommends for strategies to minimize the interest rate spread among commercial banks in Hong Kong.

Grenade (2007) carried study on determinants of commercial Banks interest rate spreads in Eastern Caribbean Currency Union. A sample of sampled 8 foreign banks and 8 indigenous banks were selected over a period 1993-2003 and secondary data was collected and analyzed using quantitative statistics. The results shows that spread have been strong and persistently showing little signs of narrowing foreign owned banks have been operating with larger spreads compared to their indigenous banks. The study recommended that spreads can be prevented by low level of market entry by new participants. .

Boldbaatar (2006) on study to examine commercial banks' interest rate spreads between lending and deposit rates in SEACEN banks. A sample of 40 banks were selected within 1998-2004, data obtained from published financial statement and analyzed using SPSS. The study revealed that banks' spreads are influenced by bank specifics, market forces and the regulatory environment and recommended that reserve requirements are very expensive to bank customers hence strategies are needed to protect the customers.

2.6 Summary

Interest rate spread in any financial institutions is affected by the demand and supply of funds between the investors borrowing ability and deposits by the public. The deposits earn very low interest but the investors expect very high returns since the bank has traded with their money to give out loans and invest in bonds. The credit facilities rates must be low not to widen the gap hence reduce the interest rate spread. Both the investors must be out of exploitation by banks in offering very high loan rates and low interest rates on deposits hence feel exploited. The Interest rates determines all other economic factors in all business aspects and a key factor of economic and investment growth.

From empirical studies proved that bank-specific factors plays a key role in determination of the spreads. The factors include bank size measured by the level of assets, credit risk as NPLs to net loans, liquidity risk. Macroeconomic factors impact like exchange rates, inflation and market structure are not significant as the micro-economic variables are concerned. The impact of legal and regulations of banking industry indicated by the monetary policy has weak positive effect hence is considered by the regulatory institutions while making decisions involving funds and the economy development within the banking industry.

Theories support the interest rates spread effect on the bank profitability with loan fund theory, rational expectation theory of interest rates gives the theoretical review about interest rates. The rational expectation theory says that investors' expectations on all investment information available in the market. The information determines the level of investment is done with the stipulated time frame due to the high return expected by the

investors. The theory of loan funds argues that interest rates and supply of money and demand of credit facilities to the investors hence the theory assumes that rates of interest are affected by the availability of the financial funds. Classical theory holds that investment is balanced on the rate of interest rates borrowers pay to access the credit facilities and the demand and supply of the financial capital available for investment.

Current studies in Kenya investigated the determinants and relationship of the interest rate spread and profitability, bank operational effectiveness. The only study on the impact of interest rate spread on financial performance was carried out before 2008 when interest rates were fairly stable. This will study establish the impact interest rates spread on the financial performance of commercial banks in Kenya.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter explains the methodology that was used to carry out this study. It is divided into research design, population of the study, data collection and data analysis

3.2 Research Design

Research design was purely the study organizational process in data collection and analysis (Mugenda 2003). A survey design was used in this study since all members of the population were considered as sample of the study. According to Coopers and Schindler (2004) survey design gives all members of population a chance to participate in the study as compared to the sampled design where a few members of the population are used to present the whole population. This can produce biased information of the population hence biased conclusion.

3.3 Population of the Study

The population of the study targeted all 43 commercial banks licensed by CBK to operate in Kenya by end of 2015. (CBK, 2015)

3.4 Data Collection

The study was based on secondary data which was obtained in the published financial statement and bank survey reports by CBK from 2011-2015. The data collection process was very simple since the required data of interest rates and bank financial performance are readily available at CBK websites on banks supervision reports, KNBS economic growth reports and individual bank reports available in end year publication and in the

website. It's a requirement by CBK for all commercial banks to publish its end year financial statement reports.

3.5 Data Analysis

Data analysis is the presentation of raw data to present mean full information about the study objective. The data obtained from secondary source was analyzed using statistical package for social sciences (SPSS) version 21 and presented in tables. A regression analysis was used to analysis relationship between the variables and ANOVA was used to establish the significance and fitness of the model.

The regression model of the study was to establish the relationship between banks financial performances and interest rate spread. The Study model:

$$Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \varepsilon$$

Where:

Y = Financial Performance

α = Constant

x_1 = deposits

x_2 = loans

e = Error Term

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

The chapter explains the data analysis from the collected data from commercial banks about interest rate spread. The aim of the study was to determine the link between interest rate spread and performance of the commercial banks in Kenya.

4.2 Trend Analysis and Profitability

The table below presents the calculated ROA from 2008-2015. The profitability for the banking industry was 8.47 in 2008, and reduced to 8.0 in 2015 showing a decrease difference of 0.47. The spread moved from 18.85 in year 2008 to 8.84 in 2015.

Table 4. 1: Interest Spreads over Time

Year	2008	2009	2010	2011	2012	2013	2014	2015
Lending Rates	21.45	22.75	12.22	14.14	20.41	16.97	16.36	15.48
Deposit Rates	2.60	2.60	2.57	3.85	7.88	6.65	6.56	6.664
Spread	18.85	20.15	9.65	10.29	12.53	10.32	9.80	8.84
Overhead Costs	5.83	5.99	3.10	3.11	3.26	2.96	3.76	4.20
Loan-Loss Provision	2.02	1.68	1.64	1.75	1.96	2.21	2.31	2.52
Reserve Requirement	0.15	0.29	0.29	0.37	0.80	0.77	1.01	1.21
Taxes	3.65	3.66	1.39	2.5	2.89	3.15	4.21	4.61
Profit Margin	8.47	8.54	3.85	4.75	5.21	6.72	7.3	8.0

Source: CBK 2016

From the table 4.1 above shows the interest rates spread over a period from 2008-2015 in which the spread reduced from year 2008 to 2015. The significant drop in spread gap in year 2010 in which it dropped from 20.15 to 9.65 from year 2011, this means the fiscal situation at CBK has improved over years.

Table 4.2 Profitability Mean Scores (2008-2015)

Category	2008	2009	2010	2011	2012	2013	2014	2015
Sector (%)	2.2	2.8	2.4	2.5	2.2	2.6	2.9	3.2
Small Banks	3.6	3.8	4.0	3.4	3.1	3.9	4.2	4.7
Large Banks	1.6	2.4	1.8	2.2	2.4	2.6	2.9	3.1

Source: CBK 2016

The table 4.1 above present's profitability mean scores over the study period, the banking sector had a mean profitability of 2.2% in 2008 and improved to 3.2 % in 2015. According to Flamini et al, (2009), any bank with a ROA of more than 1.5 % proves a good financial performance, the industry averaged performance is more than 2.2 % hence very high profitable. The Mean scores of the small banks seems to significantly higher than the large banks with ROA mean difference of 2.0 % in 2000 and 1.6 % in year 2015.

4.3 Profitability and Interest Spread

This section shows the regression analysis for all 43 commercial banks, regression analysis for larger banks and analysis of small banks.

4.3.1 Regression Analysis for all banks.

The study further performed a linear regression analysis on the interest rate spread and ROA for all banks to establish the correlation and relationship among them. The linear regression equation was of the form:

$$Y = \beta_0 + \beta_1 X + \varepsilon$$

Where: β_0 and β_1 are constants with β_0 being the intercept and β_1 being the coefficient of X, Y = the profit for the sector in percentage (ROA) and X = interest rate spread (IRS).

Table 4.3: Model Summary for all Banks (2008-2015)

Model	R	R Square	Adjusted R Square	Std Error of the Estimate
Dimension	1	.215a	0.0526	0.61152

a. Predictors:(Constant), Interest spread

According to the model summary presented in table above, the correlation between interest rate spread and ROA ratio was 0.215; this points to a positive weak relationship between the two. This is also shown by the coefficient of determination depicted from R square value whose value was 0.0526.

Table 4.4: Analysis of Variance (ANOVA) 2008-2015 Profit Sector

Model		Sum Of Squares	DF	Mean Square	F
1	Regression	.09	1	.09	.241
	Residual	1.89	5	.374	
	Total	1.96	6		

Predictors: (Constant), Interest Spread

ANOVA statistics, regressing ROA against interest rate spread gives a less significant model in prediction given an F-significance value of 0.241. That is, the regression model can be 24.1% wrong in its prediction.

Table 4.5: Coefficient

Model		Unstandardized Beta	STD	Standardized Beta	t
1	Constant	2.77	1.786		1.551
	Interest	.62	.126	.215	.491

A. Dependant Variable: Profit Sector

Based on the regression analysis, the study obtained the following linear regression model;

$$ROA = 2.77 + 0.062 \text{ IRS} + \varepsilon$$

From the regression model above, taking IRS at zero, the value of ROA ratio would be 2.77. The model also shows that a unitary increase in the level of interest rate spread leads to a 0.062 increase in the level of ROA.

4.3.2 Regression for large banks

The study performed a linear regression analysis on the interest rate spread and ROA for large banks to establish the correlation and relationship among them. The linear regression equation was of the form: $Y = \beta_0 + \beta_1 X + \varepsilon$

Where, β_0 and β_1 are constants with β_0 being the intercept and β_1 being the coefficient of X, Y = the profit Ratio in percentage (ROA) and X = interest rate spread (IRS).

Table 4.6: Model Summary and Analysis of Variance

Model	R	R Square	Adjusted R Square	Std Error of Estimate
Dimension 1	0.525a	.276	.131	.84911

a. Predictors: (Constant), Interest Spread

According to the model summary presented in the table above, the correlation between interest rate spread and ROA ratio was 0.525; this points to a positive weak relationship between the two. This is also shown by the coefficient of determination depicted from R square value whose value was 0.276.

Table 4.7: Analysis of Variance (ANOVA large banks)

Model		Sum of Squares	DF	Mean Squares	F
1	Regression	1.372	1	1.372	1.903
	Residual	3.605	5	0.721	
	Total	4.977	6		

a. Predictors: (Constant), Interest Spread

b. Dependent Variable: Large Banks

From ANOVA statistics, regressing ROA against interest rate spread gives a less significant model in prediction given an F-significance value of 1.903. That is, the regression model can be 19.03% wrong in its prediction.

Table 4.8: Coefficients (a)

Model		Unstandardized Beta	Std Error	Standardized Beta	T
1	Constant	6.334	2.479		2.555
	Interest	.242	.179	.525	.138

a. Dependent Variable: Large Banks

Based on the regression analysis, the study obtained the following linear regression model; $ROA = 6.334 + 0.242 \text{ IRS}$. From the regression model above, taking IRS at zero, the value of ROA ratio would be 6.334. The model also shows that a unitary increase in the level of interest rate spread leads to a 0.242 increase in the level of ROA.

4.3.3 Regression Analysis for Small and Medium Banks

The study further performed a linear regression analysis on the interest rate spread of small and medium banks and ROA to establish the correlation and relationship among them. The linear regression equation was of the form: $Y = \beta_0 + \beta_1 X + \varepsilon$

Where: β_0 and β_1 are constants with β_0 being the intercept and β_1 being the coefficient of X, Y = the profit Ratio in percentage (ROA) and X = interest rate spread (IRS).

Table 4.9: Model Summary

Model		R	R Square	Adjusted R	Std Error of Estimate
Dimension	1	.099a	0.01	-0.188	0.57239

a. Predictors (Constant), Interest

According to the model summary presented in the table above, the correlation between interest rate spread and ROA ratio was 0.099; this points to a positive weak relationship between the two. This is also shown by the coefficient of determination depicted from R square value whose value was 0.01.

Table 4.10: Analysis of Variance (ANOVA) (ROA against interest rate 2008)

Model		Sum of Squares	Df	Mean Square	F
1	Regression	.016	1	0.016	0.049
	Residual	1.638	5	0.328	
	Total	1.654	6		

a. Predictors: (Constant), Interest Spread

b. Dependent Variable: Small and Medium

From ANOVA statistics, regressing ROA against interest rate spread gives a less significant model in prediction given an F-significance value of 0.049. That is, the regression model can be 4.9% wrong in its prediction.

Table 4.11: Coefficients (a)

Model		Unstandardized Beta	Std	Standardized Beta	T
1	Constant	1.104	1.671		0.66
	Interest	0.0026	0.118	0.099	0.22

b. Dependent Variable: Small and Medium

Based on the regression analysis, the study obtained the following linear regression model; $ROA = 1.104 + 0.026 \text{ IRS}$. From the regression model above, taking IRS at zero, the value of ROA ratio would be 1.104. The model also shows that a unitary increase in the level of interest rate spread leads to a 0.026 increase in the level of ROA.

4.4 Summary of CBK Statistics

CBK is the regulatory of all commercial banks in Kenya. The difference of deposit rates and lending rates in any banking industry is a key factor which contributes to the growth of economy. The interest rates spread gives the investors ability to invest with confidence of high returns. To augment the findings of primary data sources and curb its limitations inherent in lack of respondents' objectivity (subjectivity), uncooperativeness and low response rate, the study collected secondary data from the CBK offices (banks supervision report 2008 to 2015) on NPLs and interest rate spread. The data was then presented in table below.

Table 4.12: Performance of Commercial Banks and Interest Rate Spread

Year	Gross Loans	Gross Profitability	Loans	Interest Rate
2008	473,100	100,700	21.29	13.55
2009	533,800	56,800	10.64	13.94
2010	670,372	61,869	9.23	14.01
2011	725,296	63,182	8.87	14.89
2012	800,001	69,212	6.65	19.85
2013	975,200	66,231	7.35	17.14
2014	1,250,121	71,000	6.23	16.39
2015	1,366,000	76,700	6.15	16.25
Maximum	1,366,000	100,700	21.29	19.85
Minimum	473,100	56,800	6.15	13.55

Source: CBK Statistics

From the table 1.12 above shows the total loan advance for all banks from year 2008-2015 with the highest of 1.366 Billion and lowest was 473 Million in year 2008. The gross profitability was 100,700 Million at maximum point and 56,800 million on the minimum point. Interest rates in at maximum was 19.85% and lowest of 13.55%

4.4.1 Regression Analysis on the Interest Rate Spread and Performance

The study further performed a linear regression analysis on the interest rate spread and performance to establish the correlation and relationship among them. The linear regression equation was of the form: $Y = \beta_0 + \beta_1 X + \varepsilon$

Where, β_0 and β_1 are constants with β_1 being the intercept and β_1 being the coefficient of X, Y = the performance in percentage and X = interest rate spread (IRS).

Table 4.13: Model Summary and Analysis of Variance

R	R Square	Adjusted R	Std Error	Durbin-	
0.382	0.1463	0.0396	9.6917	1.4372	
	Sum of Df		Mean	F	Sig.
	Squares		Square		
Regression	128.76	1	128.76	1.371	0.275
Residual	751.43	8	93.929		
Total	880.19	9			

Source: Research Findings

According to the model summary presented in table 4.13 above, the correlation between interest rate spread and profitability ratio was 0.382; this points to a positive weak relationship between the two. This is also shown by the coefficient of determination depicted from R-square value whose value was 0.1463. From ANOVA statistics, regressing profitability against interest rate spread gives a less significant model in prediction given an F-significance value of 0.275. That is, the regression model can be 27.5% wrong in its prediction.

Table 4.14: Regression Coefficients

	Unstandardized	Standard	Standardized	T	Sig
	Beta	Error	Beta		
Constant	9.601	12.831		0.748	0.476
Interest	0.898	0.767	0.382	1.171	0.275
Rate					
Spread					

Source: Research Findings

Based on the regression analysis, the study obtained the following linear regression model; $NPL = 9.601 + 0.898 \text{ IRS}$, From the regression model above, taking IRS at zero, the value of return on assets ratio would be 9.601. The model also shows that a unitary increase in the level of interest rate spread leads to a 0.898 increase in the level of profitability. However the model might be 27.5% wrong in its prediction as shown by the t and F significances.

4.5 Discussion

The objective of the study is to establish the relationship between interest rates spread and the financial performance of commercial banks in Kenya. From the study, ROA from 2008-2015 was 8.47 in 2008, and reduced to 8.0 in 2015 showing a decrease difference of 0.47 which consistent with the model presented by Grenade, (2007). The spread moved from 18.85 in year 2008 to 8.84 in 2015. The interest rates spread over a period from 2008-2015 in which the spread reduced from year 2008 to 2015. The significant drop in spread gap in year 2010 in which it dropped from 20.15 to 9.65 from year 2011, this means the fiscal situation at CBK has improved over years. Profitability mean scores over the study period, the banking sector had a mean profitability of 2.2% in 2008 and improved to 3.2 % in 2015.

According to Flamini et al, (2009), any bank with a ROA of more than 1.5 % proves a good financial performance, the industry averaged performance is more than 2.2 % hence very high profitable. The Mean scores of the small banks seem to significantly higher than the large banks with ROA mean difference of 2.0 % in 2000 and 1.6 % in year 2015 which is consisted with research by Ngugi, (2013). The analysis of profitability and interest spread on the 43 commercial banks adopted the regression model. The correlation between interest

rate spread and ROA ratio was 0.215; this points to a positive weak relationship between the two. This is also shown by the coefficient of determination depicted from R square value whose value was 0.0526. ANOVA statistics, regressing ROA against interest rate spread gives a less significant model in prediction given an F-significance value of 0.241, this proves the position taken by Kabubo ,(1998) which states that the regression model can be 24.1% wrong in its prediction. The linear regression model; $ROA = 2.77 + 0.062$ IRS. Taking IRS at zero, the value of ROA ratio would be 2.77. The model also shows that a unitary increase in the level of interest rate spread leads to a 0.062 increase in the level of ROA.

The study performed a linear regression analysis on the interest rate spread and ROA for large banks to establish the correlation and relationship among them. The correlation between interest rate spread and ROA ratio was 0.525; this points to a positive weak relationship between the two which consistent with literature from Wensheng (2002). This is also shown by the coefficient of determination depicted from R square value whose value was 0.276. ANOVA statistics, regressing ROA against interest rate spread gives a less significant model in prediction given an F-significance value of 1.903. That is, the regression model can be 19.03% wrong in its prediction. The linear regression model; $ROA = 6.334 + 0.242$ IRS, taking IRS at zero, the value of ROA ratio would be 6.334. The model also shows that a unitary increase in the level of interest rate spread leads to a 0.242 increase in the level of ROA.

The study further performed a linear regression analysis on the interest rate spread of small and medium banks and ROA to establish the correlation and relationship among them. The correlation between interest rate spread and ROA ratio was 0.099; this points to a positive weak relationship between the two which consistent with research from Wensheng (2002). This is also shown by the coefficient of determination depicted from R square value whose value was 0.01. ANOVA statistics, regressing ROA against interest rate spread gives a less significant model in prediction given an F-significance value of 0.049. That is, the regression model can be 4.9% wrong in its prediction. Based on the regression analysis, the study obtained the following linear regression model; $ROA = 1.104 + 0.026 \text{ IRS}$. Taking IRS at zero, the value of ROA ratio would be 1.104. The model also shows that a unitary increase in the level of interest rate spread leads to a 0.026 increase in the level of ROA.

From the CBK loans data, the total loan advance for all banks from year 2008-2015 with the highest of 1.366 Billion and lowest was 473 Million in year 2008. The gross profitability was 100,700 Million at maximum point and 56,800 million on the minimum point. Interest rates in at maximum was 19.85% and lowest of 13.55%. The correlation between interest rate spread and profitability ratio was 0.382; this points to a positive weak relationship between the two which consistent with literature from Garin (2010). This is also shown by the coefficient of determination depicted from R-square value whose value was 0.1463. ANOVA statistics, regressing profitability against interest rate spread gives a less significant model in prediction given an F-significance value of 0.275. That is, the regression model can be 27.5% wrong in its prediction. Based on the regression analysis,

the study obtained the following linear regression model; $NPL = 9.601 + 0.898 \text{ IRS}$, Taking IRS at zero, the value of return on assets ratio would be 9.601. The model also shows that a unitary increase in the level of interest rate spread leads to a 0.898 increase in the level of profitability. However the model might be 27.5% wrong in its prediction as shown by the t and F significances.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The chapter presents the findings on the relationship between the interest rates spread and the bank performance among the Commercial banks in Kenya. This section is subdivided into five sections: Summary of the findings, conclusion, recommendations, limitations and suggestions of further studies.

5.2 Summary

The objective of the study is to establish the relationship between interest rates spread and the financial performance of commercial banks in Kenya. From the study, ROA from 2008-2015 was 8.47 in 2008, and reduced to 8.0 in 2015 showing a decrease difference of 0.47. The spread moved from 18.85 in year 2008 to 8.84 in 2015. The interest rates spread over a period from 2008-2015 in which the spread reduced from year 2008 to 2015. The significant drop in spread gap in year 2010 in which it dropped from 20.15 to 9.65 from year 2011, this means the fiscal situation at CBK has improved over years. Profitability mean scores over the study period, the banking sector had a mean profitability of 2.2% in 2008 and improved to 3.2 % in 2015.

Any bank with a ROA of more than 1.5 % proves a good financial performance, the industry averaged performance is more than 2.2 % hence very high profitable. The Mean scores of the small banks seem to significantly higher than the large banks with ROA mean difference of 2.0 % in 2000 and 1.6 % in year 2015. The correlation for all commercial

banks between interest rate spread and ROA ratio was 0.215; this points to a positive weak relationship between the two. Coefficient of determination, R square value whose value was 0.0526, F-significance value of 0.241. The linear regression model; $ROA = 2.77 + 0.062 \text{ IRS}$, when IRS at zero, the value of ROA ratio would be 2.77. The model also shows that a unitary increase in the level of interest rate spread leads to a 0.062 increase in the level of ROA.

The correlation of large banks between interest rate spread and ROA ratio was 0.525; this points to a positive weak relationship between the two. The coefficient of determination, R square value is 0.276, F-significance value of 1.903. Hence the regression model can be 19.03% wrong in its prediction. The linear regression model, $ROA = 6.334 + 0.242 \text{ IRS}$, taking IRS at zero, the value of ROA ratio would be 6.334. The model also shows that a unitary increase in the level of interest rate spread leads to a 0.242 increase in the level of ROA. The correlation for small and medium banks between interest rate spread and ROA ratio was 0.099; this points to a positive weak relationship between the two. The coefficient of determination, R square value is 0.01, F-significance value of 0.049 hence the regression model can be 4.9% wrong in its prediction. The model $ROA = 1.104 + 0.026 \text{ IRS}$. Taking IRS at zero, the value of ROA ratio would be 1.104. The model also shows that a unitary increase in the level of interest rate spread leads to a 0.026 increase in the level of ROA.

The total loan advance for all banks from year 2008-2015 with the highest of 1.366 Billion and lowest was 473 Million in year 2008. The gross profitability was 100,700 Million at maximum point and 56,800 million on the minimum point. Interest rates in at maximum was 19.85% and lowest of 13.55%. The correlation of CBK between interest rate spread

and profitability ratio was 0.382; this points to a positive weak relationship between the two which consistent with literature from Ngetich (2011). The coefficient of determination, R-square value is 0.1463, F-significance value of 0.275. That is, the regression model can be 27.5% wrong in its prediction. The linear regression model; $NPL = 9.601 + 0.898 IRS$, Taking IRS at zero, the value of return on assets ratio would be 9.601.

5.3 Conclusion

The objective of the study is to establish the relationship between interest rates spread and the financial performance of commercial banks in Kenya. The study established that during the study period (2008-2015), the interest rate spread decreased every year in which the CBK had improved its monetary and fiscal policies. All banks maintained high profitability with ROA more than 1.5 % and the average performance of commercial banks was 2.2 % hence high profitable. The Mean scores of the small banks seem to significantly higher than the large banks which means small banks are more profitable since there lending policies are less than the large banks.

From the study, it is evidence that increase in the level of interest rate spread leads to increase in the level of Return on assets. From the CBK website the total loan advance for all banks from increased with time from 2008-2015 with the highest of 1.366 Billion and lowest was 473 Million in year 2008. The gross profitability was 100,700 Million at maximum point and 56,800 million on the minimum point. Interest rates in at maximum was 19.85% and lowest of 13.55%. The correlation of CBK between interest rate spread and profitability ratio was 0.382; this points to a positive weak relationship between the two which consistent with literature from Ngetich (2011). The coefficient of determination,

R-square value is 0.1463, F-significance value of 0.275. That is, the regression model can be 27.5% wrong in its prediction. The linear regression model; $NPL = 9.601 + 0.898 \text{ IRS}$, Taking IRS at zero, the value of return on assets ratio would be 9.601. The study resulted to a conclusion that interest rates spread have positive relationship with commercial banks profitability and operational performance.

5.4 Recommendation

The study was carried out when the banking industry is operating in a very dynamic environment. However, the study recommended that the regulator of all commercial banks (CBK) to develop monetary management policies, regulation and guidelines to ensure proper banking performance. This will minimize the gap between the interest rates spread which will enable banks to lend more funds to investors and depositors invest with expectation of returns.

Commercial banks large, medium and small banks should work together, share information and excise same management policies to minimize the profitability variance. From the study findings, small and medium banks tend to be more profitable than the larger banks due to the flexibility of lending and high deposits interest rates which encourages the investors. The investors will concentrate on the banks since rates are favorable.

From the study it's recommended that all banks should practice efficient and effective credit risk management that will enable the investors to know and calculate the loans they can repay according to the income and ability to repay. This will make banks evaluate the lending system from time to time and make sure the system present the objective of the bank hence maximize profitability and minimize Non-performing loans.

5.5 Limitation of the study

There were challenges encountered during the study and among them the bureaucracy involved to get the data from Central Bank of Kenya. It was time consuming and costly calling the contact person for the data.

Comparison of the data for a long period would have provided more insight full conclusion. The period of collecting data was also short and I was forced to take leave in order to look for the data. Again the distance involved of commuting from the Place of work to Nairobi was not easy and in most of the time traffic along Mombasa road was a problem to me.

Lastly getting a person who would help me to retrieve the data from the CBK reports was not easy and in most time being a senior officer most of the time was out of the office due to the nature of his work.

5.6 Areas for further research

The study also recommends that a further research should be done on the relationship between the capital structure and the interest spreads to ascertain whether it has implications on the financial performance of all the commercial banks in Kenya.

Again a study should also be carried out to ascertain whether there is efficiency gained in the financial institutions as a result of the liberalization of the market by the government and whether it has brought some gains in the economy both to the government and the customers.

In addition to above proposals another study should be carried out to ascertain whether the regulator i.e. Central Bank of Kenya monitors properly the rates the commercial banks are charging to their depositors and the borrowers based on their guidelines and implications it has on the general economic performance.

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APPENDIX I: COMMERCIAL BANKS IN KENYA.

1. African Banking Corporation Ltd.
2. Bank of Africa Kenya Ltd.
3. Bank of Baroda (K) Ltd
4. Bank of India
5. Barclays Bank of Kenya Ltd
6. CFC Stanbic Bank Ltd
7. Charterhouse Bank Ltd
8. Chase Bank (K) Ltd
9. Citibank N.A Kenya
10. Commercial Bank of Africa Ltd
11. Consolidated Bank of Kenya Ltd
12. Co-operative Bank of Kenya Ltd
13. Credit Bank Ltd
14. Development Bank of Kenya Ltd
15. Diamond Trust Bank Kenya Ltd
16. Dubai Bank Kenya Ltd
17. Ecobank Kenya Ltd

18. Equatorial Commercial Bank Ltd
19. Equity Bank Ltd
20. Family Bank Limited
21. Fidelity Commercial Bank Ltd
22. First community Bank Limited
23. Giro Commercial Bank Ltd
24. Guaranty Trust Bank (K) Ltd
25. Guardian Bank Ltd
26. Gulf African Bank Limited
27. Habib Bank A.G Zurich
28. Habib Bank Ltd
29. Imperial Bank Ltd
30. I &M Bank Ltd
31. Jamii Bora Bank Limited
32. Kenya Commercial Bank Ltd
33. K-Rep Bank Ltd
34. Middle East Bank (K) Ltd
35. National Bank of Kenya Ltd

36. NIC Bank Ltd
37. Oriental Commercial Bank Ltd
38. Paramount Universal Bank Ltd
39. Prime Bank
40. Standard Chartered Bank Kenya Ltd
41. National Bank Ltd
42. UBA Kenya Bank Limited
43. Victoria Commercial Bank Ltd