

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

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DECLARATION

Declaration by the student

This research project is my original work and has not been presented for a degree in any other university.

Signed.......... Date.....*05th NOV. 2013*.....

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Deceleration by the supervisor

This research project has been submitted for examination with my approval as the University supervisor.

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DEDICATION

To my dear wife, Jedida Kyalo for the much support she provided throughout my studies.

To my lovely children Joy Mwende and Joseph Kyalo for their great encouragement both morally and psychologically. May God reward and bless them abundantly.

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All honor and glory goes to the Almighty God for His love and provisions of the needed ability and resources to undertake this important study. Most sincere appreciation goes to my supervisor, Mr. Odipo M. for his direction and guidance of this project. His tireless effort has made my research successful. Am thankful to the entire staff of Faculty of Business University of Nairobi and all my Lecturers who have significantly contributed to my knowledge base, without which I would have no foundation for the accomplishment of this research.

Lastly, I wish to express my profound gratitude to all my friends for their encouragement during the course of my study.

LIST OF ABBREVIATIONS

ATA	- Average of Total Assets
CAMELS	-Capital Adequacy, Asset Quality, Management Quality, Earnings, Liquidity, Sensitivity to Market Risk
CBK	- Central Bank of Kenya
HFCK	- Housing Finance Company of Kenya Limited.
NSE	- Nairobi Securities Exchange
PBT	- Profit Before Tax
PE	- Price Earnings Ratio
ROA	- Return on Assets
ROAA	- Return on Average Assets
ROS	- Return on Sales
T.B	-Treasury Bill

ABSTRACT

This study sought to establish the relationship between lending interest rates and financial performance of the commercial banks in Kenya. It adopted a descriptive research design on a sample of listed commercial banks in Kenya. The study used secondary data, collected from Bank Supervision Report. The study used quantitative techniques in data analysis in order to establish relationship between the lending interest rates and performance of commercial banks. The data is presented using tables.

The study findings revealed that lending interest rates spread affect the performance of commercial banks in Kenya as it increases the cost of loans charged on the borrowers. Regulations on lending interest rates have far reaching effects on performance of commercial banks for such regulations determine the lending interest rates in banks and also help mitigate moral hazards incidental to performance of commercial banks. Credit risk management technique remotely affects the value of a bank's lending interest rates as lending interest rates are benchmarked against the associated non-performing loans and non-performing loans is attributable to high cost of loans.

The study recommends that commercial banks in Kenya should assess their clients and charge lending interest rates accordingly. Ineffective lending interest rate policy increases the level of lending interest rates and consequently performance. The study also recommends that commercial banks should apply stringent regulations on lending interest rates charged to regulate their lending interest rates and enhance periodic/regular credit risk monitoring of their loan portfolios to reduce the level of Loans performance.

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CHAPTER ONE

INTRODUCTION

1.1 Background of the study

Institutions whether profit or non-profit, private or public, commercial or non commercial are mostly concerned with offering the best goods and services. In order to achieve this, firms are always keen on how they relate with the stakeholders within a given environment. The institutions output whether in terms of profits or exemplary services is affected by the environments in which they operate in. Overtime, the environments that firms operate in has not only become uncertain but also tightly interconnected. This requires a threefold response from these organizations. They are required to think strategically as never before, need to translate their insight into effective strategies to cope with their changed circumstances and lastly, to develop rationales necessary to lay the groundwork for adopting and implementing strategies in this ever-changing environment (Bryson, 1995). Bryson's observation implies that organizations operate within a wider environment that is composed of a number of variables: political, economic, socio-cultural, technological, ecological, and legal. Consequently, any change in any one of these variables is expected to have far-reaching implications in the way organizations operate. Also organizations' operations and/or activities are expected to have an impact within the environments in which they operate.

Commercial banks in Kenya operate within the wider umbrella of the Financial Markets. The Financial Markets deals with the purchase and sale of money. It mainly involves obtaining money from those who have more than they need by attracting it either as deposits through commercial banks, premiums through insurance companies, units and Shares through Mutual Funds or Shares or Bonds through Investment Banks.

Commercial banks are financial intermediaries. Financial intermediaries are firms that deal with the mobilization of funds from savers and the accumulation of the same in pools for disbursement to those requiring funds for investment (Gordon et al, 2002). A commercial bank is defined as an institution that accepts deposits that the depositor has a legal right to withdraw on demand and engages in the business of commercial loans

(Sinkey, 1992). Miller, et.al (1993) defined a commercial bank as a depository institution that is relatively unrestricted in its ability to make commercial loans and that is legally permitted to issue checking accounts. Thygerson (1995) asserts that commercial banks perform the role of servicing and portfolio risk management. Stiglitz (1993) identified five roles of financial institutions: they act as intermediaries between savers and borrowers; they relieve the savers the risk of lending, they therefore encourage savers to lend without bearing the associated risk; they provide facilities such as savings deposits which act as savers investment. They therefore provide investment opportunities for savers while at the same time mobilizing capital for ultimate investment; they play the role of liquidity adjustment in the financial market by taking surplus liquidity and Providing it when needed; they provide savers with experts in financial management to manage their future funds. Such experts are usually unaffordable by individual savers.

1.1.1: Lending interest rates and Bank Performance

It is widely believed that fluctuations of market interest rates exert significant influence on the activities of commercial banks. Later investigation by Hancock (1985) confirms the conjecture that a higher level of market interest rates improves banking profitability. In addition, the effect of interest rate changes on banks' profitability is shown to be asymmetric with the effect originating from lending rates being greater than those of deposit rates. The stochastic behavior of market rates is also argued to be a significant factor that determines the mode banks adopt in delivering their services. Desmukh et al. (1983) show that banks can be either brokers or asset transformers subject to interest rate uncertainty. In a volatile interest rate environment, banks minimize their risk exposure by performing the role of brokers, merely matching the arrival of assets and liabilities.

The impact of variations in market interest rates on banks' profitability is ambiguous; it largely depends on the degree of responses of asset and liability rates. In general, since both sides of banks' balance sheets are affected by market interest rates in a parallel fashion, the net impact on banks' profitability can be deduced by tracing the responses of both assets and liabilities as market interest rates change.

Commercial banks' activities greatly rely on their intermediation services, filling the gap between suppliers and demanders of funds. Their profitability is partly due to the difference in interest rates charged on loans and what is paid to suppliers of funds. Pyle (1971) argues that the larger the spread between loan and deposit rates, the more likely the necessary condition for intermediation to occur can be met. Earlier explanations that allow positive spread to be maintained rest on the ability of commercial banks to minimize transaction costs in loans originating through their intermediation services.

Benston and Smith (1976) suggest that transaction costs are central to the theory of financial intermediation and the ability of the financial intermediary to exploit the returns to scale implicit in the structure of the transaction costs by purchasing large blocks of securities, repackaging, and reselling them at a lower cost supports the existence of intermediaries. The *raison d'être* for this industry is the existence of transaction costs, (Benston and Smith, 1976, 215). Based on the transaction cost explanation, positive spread is consistent with banks' profitability since banks largely play the brokerage role intermediating between depositors and lenders. Contemporary banking theory, however, argues that traditional arguments based on transaction costs are insufficient and proposed the existence of banking institutions as a solution to informational asymmetries prevailing in the economy (Leland and Pyle, 1977; Diamond, 1984; and Ramakrishnan and Thakor, 1984).

Banks are viewed as providing a special role in the economy as asset transformers. The existence of banks minimizes the adverse selection and moral hazard problems, which are prevalent in direct financial transactions. Through maturity and liquidity transformation and their specialization in sorting and evaluating information, banks can properly evaluate loans that cannot be priced accurately by market participants. The maturity and liquidity intermediation causes the maturity of a bank's balance sheet to be mismatched and therefore expose the bank to variation in market rates. Banks' balance sheets' maturity structure of 'borrowing short and lending long' is argued to be the main source of the interest rate risk faced by commercial banks.

Flannery (1981) explains that banks are exposed to fluctuations in market interest rates in two ways. FLRt, the imbalance of maturity (duration) of assets and liabilities, i.e., 'borrowing short and lending long', subjects banks to a non-synchronized refunding schedule, which could be expensive during a high interest rate environment. In this respect, Tobin (1982) views banking decisions as solving precautionary portfolio allocation problems with banks attempting to minimize the cost of unexpected deposit withdrawals. Since penalty is imposed on deposit shortfall, banks have to properly weigh its probabilities in their allocations of assets into earnings assets (investment and loans) and defensive assets. Second, even if banks accurately matched the maturity of assets and liabilities, different degrees of market interest rate elasticities between assets and liabilities components could still exert significant effects on banks' profitability. Different degrees of elasticity lead to non-proportionate changes in the value of assets and liabilities as market interest rates change which then affect the value of the banking firm.

The behavior of interest rate is critical in analyzing this issue. Theoretically, Ho and Saunders (1981) indicate that maintaining a positive spread is crucial for banking firms as this will compensate them for taking the risk of providing immediacy of loans and deposits, that are viewed as stochastic, which arrive at different times. Their empirical estimate shows that the magnitude of 'pure spread' is significantly affected by interest rate volatility. In a related study, Slovin and Sushka (1983) modelled commercial loan rates as independent from deposit rates. This dichotomy of asset and liability rates is achieved as lending rates are shown to be sensitive to open market rates while deposit rates are not. Restrictions on interest rates are shown to be important factors that dichotomize lending and deposit rates. The authors fail to find any significant influence of deposits on loan rates. The coefficient for loan/deposit ratio indicates that the 'loaned up' position is not significant when regressed on loan rates.

On a similar theme Hancock (1985), shows that the change in banks' profitability generated by changes in loan rates is greater than the change generated by deposit rates. It is shown that the effect of spread changes is asymmetric and the increase in profit due to changes in loan rates is greater than changes due to deposit rates, indicating larger profit

elasticity with respect to loans rather than deposits. These findings led to the suggestion for separate inclusion of loan and deposit rates instead of a single spread measurement in estimating the bank's profit equation.

1.1.2 Financial Performance

From the perspective of investors, financial performance of an organization is reflected in the trends of yields arising from their investments in the organization and the trend of the organization's market stock price. Whereas stock price is a key indicator of performance for both investors and management, banks and other organizations monitor performance through accounting measures, because these measures, among other factors, affect stock prices and yields.

CAMELS (Capital Adequacy, Asset Quality, Management Quality, Earnings, Liquidity, and Sensitivity to Market Risk) is one tool that incorporates most key accounting factors of performance. CAMELS is used by bank supervisory authorities to assess the performance of commercial banks. Each bank is assigned a score on a scale of one (best) to five (worst) for each factor. If a bank has an average score of one or two it is considered to be a high-quality institution, while commercial banks with scores of three or more are considered less-than-satisfactory. CAMELS ratings are often held in high confidentiality and known only to a financial institution's top management (Finance 3.0 website, finance30.com) to avoid any possible impact on prices of bank securities, and to maintain the information-sharing relationship between examiners and bankers for supervisory monitoring.

Whereas CAMELS would be a more comprehensive measure of performance compared to Return on Average Assets (ROAA), factors like Management Quality and Sensitivity to Market Risk require much effort in order to minimize subjectivity. ROAA is defined as the ratio of Profit Before Tax (PBT) to the average of total assets (ATA). ATA is the average of the total assets at the beginning of the year, and at the end of the year.

Accounting measures of performance have the advantage of being based on absolute performance, rather than on performance relative to investors' expectation as reflected in

stock prices (Brealey, Myers, Allen, and Mohanty, 2007). Commonly used accounting measures include Asset Quality which is an indicator of the quality of loans, Efficiency which relates cost to income as an indicator of how well resources are utilized, Capital Adequacy which relates core capital to depositors' funds as a measure of capital stability, Liquidity ratios which give an indication of the ability to meet depositors' withdrawals without delay, and earnings e.g. ROAA which gives an indication of absolute earnings.

Bank financial performance in this study will be based on accounting measures rather than stock returns. Branch average customer deposits and branch average loans to customers are recommended by Hirtle (2005, 2007) as measures of performance because considering ROAA at branch level would require determination of branch expenses and costs other than interest paid on deposits, which would require branch level data that is not readily available. However, because obtaining branch level data is not immediately possible not only for expenses but also for customer loans and customer deposits, ROAA will be the sole measure of performance in this study. Branch average customer deposits, branch average loans to customers, branch average interest earned on loans and branch average cost of deposits all contribute towards ROAA and therefore ROAA should be a good indicator of performance.

1.1.3 Effects of lending Rates on financial performance

When the government increases the discount rate, it does not have an immediate impact on the stock market. Instead, the increased discount rate has a single direct effect, it becomes more expensive for banks to borrow money from the Government (Rose and James, 2005). However, increases in the discount rate also cause a ripple effect, and factors that influence both individuals and businesses are affected.

Businesses are also indirectly affected by an increase in the discount rate as a result of the actions of individual consumers. But businesses are affected in a more direct way as well. They, too, borrow money from banks to run and expand their operations. When the banks make borrowing more expensive, companies might not borrow as much and will pay a higher rate of interest on their loans. Less business spending can slow down the growth of a company, resulting in decreases in profit. Securities of firms making continuous losses, usually suffer from price decline (Kisaka, 2009).

1.1.4 Listed commercial Banks in Kenya

The banking sector in Kenya is composed of commercial banks, non- bank financial institutions, Forex Bureaus and the Central bank of Kenya as the regulatory body. Currently the banking sector has 42 commercial banks and one mortgage finance company. Commercial banks and Mortgage Finance companies are licensed and regulated under the banking Act, cap 488 and prudential regulations issued there under. Banks accept deposits from savers and accumulate them in order to lend to the many and diversified types of borrowers. Out the forty three, only eleven are listed in the Nairobi Securities Exchange, representing 25.6% of the total industry.

According to Block and Hirt, 1992; banks have classified their loans according to the type of borrower, use of the loan proceeds and the type of security for the loan. This study will focus on commercial loans which are short term in nature. Small and medium sized enterprises mainly borrow to finance working capital needs. Banks have a variety of credit appraisal techniques that they use while granting loans. These credit appraisal techniques include several transaction based appraisal techniques and relationship lending. According to Petersen and Rajan (1995), banks need some degree of market power to have the incentives to invest in long-term relationships with their borrowers. A consequence is that relationship credit appraisal techniques are likely to be used in the most concentrated banking markets while transaction based techniques would be preferred to relationship appraisal as the degree of banking competition increases.

In an ever-changing global economy Johnson and Scholes (2003) notes that organizations must find ways for operating by developing new competences as the old advantage and competences gained is quickly eroded owing to environmental changes. La Piana (2008) observes that changes in the commercial banks arise out of the need for efficiency, economy, effectiveness, performance evaluation ethics and market concerns. Rising demand for services and expectations of quality of those services have placed extreme pressure on managers and their organisations, depicting change as a continuous episode in the life of corporations. As a result of the growing levels of the competition and rapid change, more

and more banks worldwide are increasing their strategic management efforts aimed at gaining a comparative advantage (Chanon, 1986).

The commercial banking industry in Kenya has been in a state of constant change ever since liberalization and this has seen new sources of risks emerge. More change always demands more leadership. The leadership challenge is therefore to galvanize commitment among people within the organization as well as with stakeholders outside the organization to embrace change and implement strategies intended to position the organization to overcome the challenges arising from the change.

Kenya features a commercial banking system dominated by numerous commercial banks and a small number of non bank financial institutions which concentrate mainly on mortgage finance, insurance and other related financial services. Over the years the sector has grown into a more complex scene of banking institutions of different types and ownership.

The financial services industry in Kenya has become visible and fiercely competitive. What worked for corporations in the past has been re-engineered; re-evaluated, reprocessed, and reinvented in the hope of entering this new era with an edge on competition. Each corporation has a strategy unique to its corporate culture, but all of these banking institutions have the same desire: to be the customer's number one choice for their banking products and services. Customers equal profitability, and profitability equates to future success and prosperity. The banking industry has witnessed an evolution from the old way of doing business.

Currently, commercial banks are pushing the Central Bank of Kenya to revise the treasury bills rates upwards so that the banks can increase their lending interest rates (Anyanzwa and Okoth, 2008). The average lending interest rates stood at 12.76% in April 2008 and banks are considering revising their rates so as to match inflation that is currently at 29.26% (Anyanzwa and Okoth, 2008).

1.2 Research Problem

Interest rate determines the profitability of a commercial bank among other factors. High interest rates have remained a macroeconomic problem that has been hard to eliminate. Economic observers and academicians in Kenya have pointed out that high interest rates are regressive to the economic development of the country. The central bank has attempted to correct the situation but the policy definition and design has not been appropriately designed.

In Kenya interest rates were liberalized in July 1991. Financial repression theory predicts that after liberalization positive real interest rates should be realized as nominal interest rates increase from the government set low levels when price stability is achieved. The financial system also gains efficiency in the intermediation process such that the interest rate between the lending and deposit rate narrows. The imbalance of adjustment of asset and liability rates toward changes in market rates significantly affects the value of bank equity.

The impulse response functions show that low and lagged response of lending rates contribute to the decline in banking spread following an increase in money market rates, thus, adversely affecting banking activities Flannery and James, 1984; Yourougou, 1990; Bae, 1990; Akella and Greebaum, 1992; Brewer, et al., 1993; and Madura and Zarruk, 1995). Contrary to the above-mentioned findings, in Malaysia the high level of interest rates hindered banks' profitability. The study therefore seeks to unravel whether the phenomenon observed in the developed nations is true by investigating the impact of interest rate on banks' performance in Kenya (developing country).

Studies have shown that there is a relationship between lending interest rates and the performance of banks. However, the evidence has been contrasting as the effect has not been conflicting. Earlier treatment of the issue provided by Samuelson (1945) indicates that under general conditions, bank profits increase with rising interest rates. The banking system as a whole is immeasurably helped rather than hindered by an increase in interest rates (Samuelson, 1945, 25). A more accurate measurement of how fluctuations in market interest rates affect banking firms largely depends on the sensitivity of banks' assets and

liabilities (interest rates and volume) toward variations in open market rates. It is against this background that this study sought to find out what is relationship between lending interest rates and firms performance?

1.3 Research Objective

The objective of this study was to establish the relationship between lending rates and the financial performance of commercial banks in Kenya.

1.4 Value of the Study

It would be significant to the banking industry, especially to decision makers involved in implementation of interest rates for their banks. The government can also use this research for comparative purposes e.g. government policy makers, since an understanding of the behavior of interest rate on performance will enable them come up with appropriate policies that encourage market growth.

The Findings of this study provide information and advice on the possible opportunities that research institutions can use and impact of interest rates and knowledge of performance for the development of the upcoming commercial banks.

The study would be of value to researchers as a basis for future empirical and conceptual research, which would be helpful in refining and validating findings especially when a significant number of experiences is collected and studied.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter comprises the review of literature by different authors on the topic of the relationship between lending interest rates and the financial performance, how it applies in commercial banks and gaps to be filled and the summary. Literature review in this case will take up a systematic process of identification, location and analysis of the documents containing information relevant to the problem under investigation.

This chapter presents the theoretical review, empirical review, comparison in the local context and the summary.

2.2. Theoretical Review

2.2.1 The segmented Market Theory

This theory of the term structure assumes that credit markets are segmented, separated and distinct. Therefore, the interest rate on each bond with a different maturity is determined by the supply of and demand for that bond, with no effects from expected returns on other bonds with other maturities (Mishkin, 1999).

This theory holds that investors have specific investment preferences that are ultimately dictated by the nature of their liabilities (Howells and Bain, 1998). A key assumption of the segmented market theory is that bonds of different maturities are not substitutes. Some lenders or borrowers prefer short-term bonds, while others prefer long-term ones. Investors and borrowers are concerned with specific maturities only. Interest rates are determined independently in separate markets with different maturities, without affecting other segments of the credit market. Investors or bond issuers only care about one segment of the bond market.

This theory explains why yield curves are usually upward-sloping, and states that investors are risk-averse, so they prefer the safety of short-term bonds. Long-term bonds will have higher yields as a result of their lower demand since investors prefer short-term bonds. It does not, however, explain why interest rates tend to move together over time, and it also does not offer any insights into why yield curves slope upward when interest rates are very low and slope downward when interest rates are very high.

2.2.2 The liquidity premium theory

Since each of the above two theories explain empirical facts that the other cannot, a logical step is to combine them, which leads to the liquidity premium theory. This theory of the term structure states that the interest rate on a long-term bond will equal an average of short-term interest rates expected to occur over the life of the long-term bond, plus a premium that responds to supply and demand conditions for that bond (Mishkin, 1999:143). The liquidity premium theory modifies the expectations hypothesis by assuming that investors are risk averse; therefore they will demand a premium for long-term bonds because of interest rate risk. It is assumed that investors require a liquidity premium to induce them to lock up their funds for longer-term maturity (Howells and Bain, 2002:324). That is, investors must be paid an extra return in the form of an interest rate premium to encourage them to invest in long-term securities and compensate them for the increased risk (Van Zyl, Botha and Skeritt, 2003:43). The liquidity premium theory's main assumption is that bonds of different maturities are substitutes, but not perfect substitutes, which means that the expected return on one bond does influence the expected return on a bond of a different maturity. Liquidity premium theory also allows investors to prefer one bond maturity over another. Investors tend to prefer shorter-term bonds because these bonds bear less interest-rate risk. As such, if the investors were to hold bonds of longer maturities they must be offered a liquidity premium to induce them to do so.

2.2.3 Traditional Theory on Banking

According to the traditional theory on banking, banks act as intermediaries in the economy between agents with excess financial resources (depositors) and agents with deficient funds (borrowers). The existence of such intermediaries is made possible by the

presence of information costs. In a world without banks, both borrowers and lenders have to face search costs in order to find each other. While lenders have to confront also verification costs (verify the accuracy of information provided by the borrower), monitoring costs (monitoring the activities of the borrower), and enforcement costs (in case of violation of the contract). When these information costs are higher than the costs of intermediation, both borrowers and lenders will find it beneficial to seek out banks (Richard Bradley and Stewart, 2001).

2.3 Factors Influencing Interest Rates

As with any other price in the market economy, interest rates are determined by the forces of supply and demand, in this case, the supply of and demand for credit (Ngugi.R.W and Kabubo J.W., 1998). The general level of interest rates is determined by the interaction of the supply and demand for credit. When supply and demand interact, they determine a price (the equilibrium price) that tends to be relatively stable.

If the supply of credit from lenders rises relative to the demand from borrowers, the price (interest rate) will tend to fall as lenders compete to find use for their funds. If the demand rises relative to the supply, the interest rate will tend to rise as borrowers compete for increasingly scarce funds. According to Pandley I.M, (1997), the principal source of the demand for credit is from our desire for current spending and investment opportunities. The principal source of the supply of credit comes from savings, or the willingness of people, firms, and governments to delay spending.

2.3.1 Valuation of Stocks

A rise in the interest rates affects the valuation of the stocks. The rise in the interest rates raises the expectations of the markets participants, which demand better returns commensurate with the increased returns on bonds.

There is a negative correlation between the P/E ratios of stock market indexes at the end of every year and the bond yield of the corresponding period (Brial, Ivan and Oded P., 1992). The above relationship of market P/E and bond Yield of gives a very good

indication of, how over the long-term the stock markets are impacted by the change in interest rates.

In a low interest rate regime, corporates are able to increase profitability by reducing their interest expenses. However in a rising interest rate regime since interest expenses rise, profitability is hit. As per Thygersa K.J, (1995) findings calculating the inherent value of a company by the cash flow discounting model yields a two-fold impact. One, there is a reduction in the cash flows due to lower profitability, second, there is a higher discounting rate due to higher interest rate regime. This leads to a relatively lower intrinsic value of the company.

Investors, who are averse to risk, tend to move funds from one asset class to other (Kibe, M.M., (2003). When interest rates rise, investors move from equities to bonds and vice-versa. However, it does not mean that all the funds moves from one asset class to another, but it happens that the marginal shift of funds does change valuations to an extent. Whereas when interest rates fall, returns on bonds fall while the returns on equities tends to look relatively more attractive and the migration of fund from bonds to equities takes place, and increasing the prices of equities(Auerabach D.R, 1988)

2.3.2 Investments

For many investors, a declining market or stock price is not a desirable outcome. Investors wish to see their invested money increase in value. Such gains come from stock price appreciation, the payment of dividends - or both. Brial, Ivan and Oded P.,(1992) argues that with a lowered expectation in the growth and future cash flows of the company, investors will not get as much growth from stock price appreciation, making stock ownership less desirable. Investing in stocks can be viewed as too risky compared to other investments.

When the Government raises the discount rate, newly offered government securities, such Treasury bills and bonds, are often viewed as the safest investments and will usually experience a corresponding increase in interest rates (Ngugi.R.W and Kabubo J.W., 1998). In other words, the risk-free rate of return goes up, making these investments more desirable. When people invest in stocks, they need to be compensated for taking on

the additional risk involved in such an investment, or a premium above the risk-free rate. The desired return for investing in stocks is the sum of the risk-free rate and the risk premium. Different people have different risk premiums, depending on their own tolerance for risk and the company they are buying. However, in general, as the risk-free rate goes up, the total return required for investing in stocks also increases. Therefore, if the required risk premium decreases while the potential return remains the same or becomes lower, investors might feel that stocks have become too risky, and will put their money elsewhere.

2.3.3 Stock Prices

The interest rate has a wide and varied impact upon the economy. When it is raised, the general effect is to lessen the amount of money in circulation, which works to keep inflation low. It also makes borrowing money more expensive, which affects how consumers and businesses spend their money; increases expenses for companies, lowering earnings somewhat for those with debt to pay; and, finally, it tends to make the stock market a slightly less attractive place to investment.

However, each of these factors and results are all interrelated. Interest rates are not the only determinant of stock prices and there are many considerations that go into stock prices and the general trend of the market - an increased interest rate is only one of them (Hartman M.A and Khambata, D, 1993). Therefore, an interest rate hike by the government will not necessarily have an overall negative effect on stock prices, interest rates affect but don't determine the Stock Market.

2.4 Effects of an Increase in Interest Rates

When the government increases the discount rate, it does not have an immediate impact on the stock market. Instead, the increased discount rate has a single direct effect – it becomes more expensive for banks to borrow money from the Government (Rose and James, 1995). However, increases in the discount rate also cause a ripple effect, and factors that influence both individuals and businesses are affected.

The fLRt indirect effect of an increased discount rate is that banks increase the rates that they charge their customers to borrow money. Individuals are affected through increases to credit card and mortgage interest rates, especially if they carry a variable interest rate. This has the effect of decreasing the amount of money consumers can spend, save or invest. People still have to pay the bills, and when those bills become more expensive, households are left with less money disposable income. This means that people will spend less discretionary money, which will affect businesses' top and bottom lines (that is, revenues and profits).

Businesses are also indirectly affected by an increase in the discount rate as a result of the actions of individual consumers. But businesses are affected in a more direct way as well. They, too, borrow money from banks to run and expand their operations. When the banks make borrowing more expensive, companies might not borrow as much and will pay a higher rate of interest on their loans. Less business spending can slow down the growth of a company, resulting in decreases in profit. Securities of firms making continuous losses, usually suffer from price decline (Kisaka.S, 1999).

2.5 Commercial Banking and Market Interest Rates

Commercial banks' activities greatly rely on their intermediation services, filling the gap between suppliers and demanders of funds. Their profitability is partly due to the difference in interest rates charged on loans and what is paid to suppliers of funds, i.e., the interest rate spread. Pyle (1971) argues that the larger the spread between loan and deposit rates, the more likely the necessary condition for intermediation to occur can be met. Earlier explanations that allow positive spread to be maintained rest on the ability of commercial banks to minimize transaction costs in loans originating through their intermediation services. Benston and Smith (1976) suggest that transaction costs are central to the theory of financial intermediation and the ability of the financial intermediary to exploit the returns to scale implicit in the structure of the transaction costs by purchasing large blocks of securities, repackaging, and reselling them at a lower cost supports the existence of intermediaries. The *raison d'être* for this industry is the existence of transaction costs, (Benston and Smith, 1976, 215). Based on the transaction

cost explanation, positive spread is consistent with banks' profitability since banks largely play the brokerage role intermediating between depositors and lenders. Contemporary banking theory, however, argues that traditional arguments based on transaction costs are insufficient and proposed the existence of banking institutions as a solution to informational asymmetries prevailing in the economy (Leland and Pyle, 1977; Diamond, 1984; and Ramakrishnan and Thakor, 1984). Banks are viewed as providing a special role in the economy as asset transformers. The existence of banks minimizes the adverse selection and moral hazard problems, which are prevalent in direct financial transactions. Through maturity and liquidity transformation and their specialization in sorting and evaluating information, banks can properly evaluate loans that cannot be priced accurately by market participants. The maturity and liquidity intermediation causes the maturity of a bank's balance sheet to be mismatched and therefore expose the bank to variation in market rates. The imbalance of adjustment of asset and liability rates toward changes in market rates (which cause changes in the spread) significantly affects the value of bank equity. Regardless of the justifications forwarded this author simply that banking institutions are special and contribute to the efficiency of the economy, thus, positive spread remains as a main feature of banking activities.

The impact of changes in market interest rates on banking activities can be analyzed in several frameworks. Numerous studies focus on the level of interest rate risk, i.e., uncertainty in banks' profitability, which is due to the imbalance of sensitivity of assets and liabilities of commercial banks toward changes in market interest rates (Flannery and James, 1984; Yourougou, 1990; Bae, 1990; Akella and Greebaum, 1992; Brewer, et al., 1993; and Madura and Zarruk, 1995). Banks' balance sheets' maturity structure of 'borrowing short and lending long' is argued to be the main source of the interest rate risk faced by commercial banks. Flannery (1981) explains that banks are exposed to fluctuations in market interest rates in two ways. FLRt, the imbalance of maturity(duration) of assets and liabilities, i.e., 'borrowing short and lending long', subjects banks to a non-synchronized refunding schedule, which could be expensive during a high interest rate environment. In this respect, Tobin (1982) views banking decisions as solving precautionary portfolio allocation problems with banks attempting to minimize the cost of unexpected deposit withdrawals. Since penalty is imposed on

deposit shortfall, banks have to properly weigh its probabilities in their allocations of assets into earnings assets (investment and loans) and defensive assets.⁸Second, even if banks accurately matched the maturity of assets and liabilities, different degrees of market interest rate elasticities between assets and liabilities components could still exert significant effects on banks' profitability. Different degrees of elasticity lead to non-proportionate changes in the value of assets and liabilities as market interest rates change, which then affect the value of the banking firm. The behavior of interest rate spread is critical in analyzing this issue. Theoretically, Ho and Saunders (1981) indicate that maintaining a positive spread is crucial for banking firms as this will compensate them for taking the risk of providing immediacy of loans and deposits, that are viewed as stochastic, which arrive at different times. Their empirical estimate shows that the magnitude of 'pure spread' is significantly affected by interest rate volatility. In a related study, Slovin and Sushka (1983) modelled commercial loan rates as independent from deposit rates. This dichotomy of asset and liability rates is achieved as lending rates are shown to be sensitive to open market rates while deposit rates are not. Restrictions on interest rates (such as Regulation Q) are shown to be important factors that dichotomize lending and deposit rates. The authors fail to find any significant influence of deposits on loan rates.

The coefficient for loan/deposit ratio indicates that the 'loaned up' position is not significant when regressed on loan rates. On a similar theme, Hancock (1985) shows that the change in banks' profitability generated by changes in loan rates is greater than the change generated by deposit rates. It is shown that the effect of spread changes is asymmetric and the increase in profit due to changes in loan rates is greater than changes due to deposit rates, indicating larger profit elasticity with respect to loans rather than deposits. These findings led to the suggestion for separate inclusion of loan and deposit rates instead of a single spread measurement in estimating the bank's profit equation. The preceding discussion indicates the importance of understanding the behavior of banks' interest rate spread as open market rates change. The net impact on bank profitability can be examined by studying the behavior of interest rate spread and its components with respect to variations in market interest rates. Various analyses have been performed investigating this topic in advanced economies, especially in the United States, but

studies on smaller economies are negligible. We performed this analysis on the Malaysian banking industry in order to shed some light on the issue for a small economy such as Malaysia. The process of interest rate liberalization that began in Malaysia in the early eighties gradually freed the interest rate from a controlled regime.¹⁰ Asset and liability rates are now more exposed to market influence and can possibly affect banks' profitability. Freeing interest rate movement changes its stochastic properties that in turn might affect the role of banks in the economy. Thus, the net impact of changes in market interest rates on banks' interest rate spread is a crucial issue that needs to be investigated.

2.6 Summary of Literature Review

There appears to be evidence that large commercial banks are better placed to levy higher charges and attract deposits at lower costs than smaller commercial banks due to a combination of regulatory factors and convenient banking offered. Higher cost implications of operating many branches influence performance. However, the cost implications may be limited if distributed over a larger deposit base, a larger loan book and higher revenues that can be made possible by a strong asset base and a large branch network size. Insufficient existing evidence makes the study of the joint relationship between lending interest rates and firm's performance worthwhile.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This section describes the methodology that was used: the research design, the target population, sampling method, data collection and data analysis procedure that were used in conducting the study.

3.2 Research Design

There are several research designs ranging from exploratory studies, descriptive studies, explanatory studies. Within each of these designs are strategies that can be applied such as experiment, survey, and case study. This research problem can best be studied through the use of a descriptive survey. Descriptive research portrays an accurate profile of persons, events, or situations (Robson, 2002). Surveys allow the collection of large amount of data from a sizable population in a highly economical way. It allows one to collect quantitative data which can be analyzed quantitatively using descriptive and inferential statistics (Saunders et al., 2007). Therefore, the descriptive survey was deemed the best strategy to fulfill the objectives of this study.

3.3 Population of Study

The target populations for this study were all commercial banks in Kenya that are listed in the Nairobi Securities Exchange. The list of all the eleven commercial banks listed in NSE is attached as appendix 1. However, there are 43 commercial banks currently operating in Kenya as at July 2013

3.4 Sample and Sampling Technique

Of the 43 banks currently in Kenya, sample sizes of 11 financial institutions were surveyed. For a financial institution to qualify for inclusion in the survey, it must be listed on the Nairobi Securities Exchange. Only 11 financial institutions met this criterion and

therefore formed the sample of the study. The sample was selected from the population using purposive sampling method.

3.5 Data Collection

This study made use of secondary data. It was found from the published financial statements of the sampled banks in the survey. The specific information was derived from the banks' balance sheets as well as the income statements. The statistics on the lending interest rates was also sought from the banks, from the Central Bank of Kenya, and from other published information in newspapers. The study covered a five-year period from 2008 through to 2012.

3.6 Data Analysis and Presentation

The relationship between interest rate and firm performance was construed as that of a linear relationship. Thus, a linear model shown below was used for purposes of determining whether lending interest rate has a significant influence on the performance of commercial banks listed on the NSE. The performance of commercial banks was measured by return on sales (ROS), return on assets (ROA), and return on equity (ROE).

3.6.1: General linear model

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_n X_{n-1} + \eta$$

In our problem we have: $Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \eta$

i.e.

$$\text{Performance} = \text{Constant} + \beta_1 (\text{Return on Sales}) + \beta_2 (\text{Return on Assets}) + \beta_3 (\text{Return on Equity}) + \text{Error term}$$

Where:

Y is Response or Dependent variable (Performance)

α is a constant

$\beta_1, \beta_2 \dots \beta_n$, are coefficients of the predictor variables

X_1, X_2 and X_n are the Predictor or Independent variables (ROS, ROA and ROE)

η = Error term

A regression analysis was performed to test the relationship between lending interest rate and bank performance. The results were then presented using tables.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the information processed from the data collected during the study to investigate the relationship between lending rates and the financial performance of the commercial banks in Kenya. Revenue from operations and performing debts was used to measure performance of the firm. Furthermore, the analyst or investors may wish to look deeper into financial statements and seek out margin growth rate or any declining debt.

4.2 Trend Analysis of Profitability

From table 4.2 the mean scores ratio of net income to asset from 2008 to 2012, for the whole sector was 1.4% and rose to 2.2% in 2012 showing an increase of 57.14%. For large banks it was 1.5% in 2008 and rose to 2.2 % showing an increase of 46.67% and for small and medium was 1.4% in 2008 and rose to 1.6% by hence an increase of 14.29%.

Table 4. 1: Decomposition of Lending rates Over Time

All Banks	2008	2009	2010	2011	2012
Average Lending Rate	25.03	24.47	25.89	21.45	22.75
Average Deposit Rate	5.79	4.62	3.53	1.36	2.60
Spread	19.25	19.85	22.36	20.10	20.16
Overhead Costs	6.94	6.49	7.53	5.83	5.99
Loan-loss Provisions	4.28	2.66	3.43	2.02	1.68
Reserve Requirement	0.64	0.51	0.39	0.15	0.29
Taxes	2.21	3.05	3.30	3.63	3.66
Profit Margin	5.16	7.12	7.71	8.47	8.54

(Source: CBK 2013)

On how lending interest rates, the proxy for the efficiency of financial intermediation, have evolved over the past five years in Kenya, and relate those developments to our discussion of the government strategy for the development of the financial sector and the accompanying changes in the legal and regulatory framework discussed above. The study then presents simple arithmetic decompositions of the lending interest rates to explain the factors that have contributed to their relatively high levels and also to their decline over time. We also examine how spread levels and their determinants differ by bank size and ownership type. Finally, we offer regressions that better enable us to test whether the determinants of spreads differ by bank ownership type and if such differences can be explained by the types of activities that different owners pursue.

Headline indicators produced by the Central Bank of Kenya indicate that spreads increased uniformly from 2008 to 2010; there was a slight drop in 2011 which calls for an improvement in Kenya's fiscal situation and general macro-management, which led to substantial declines in both the volume of government securities issued and the interest rates paid. As government securities became a less attractive investment option for banks, they turned to new lending opportunities, and the competition between banks for those opportunities coincided with lower spreads. However, the shift out of government securities was much swifter for some banks than others, and most banks increased their holdings of those securities from 2008 to 2009. There was an increase in 2012 and have since remained stable. In addition, yearly average spreads in Figure 1 mask wide variation across banks and our statistical analysis below indicates that the drivers of changes in spreads differ across bank ownership types. For these reasons, the reduction in government debt issuance does not provide a complete explanation of the evolution of spreads over this period.

Table 4. 2: Annual Mean Scores of Profitability from 2008 to 2012

	Category	2008	2009	2010	2011	2012	% Δ since 2008
ROA	Sector (%)	1.4	1.5	1.3	1.7	2.2	57.14
	Large banks (%)	1.5	1.9	1.8	2.1	2.2	46.67
	Small & medium (%)	1.4	1.1	0.8	1.2	1.6	14.29

The reported results in Table 4.2 show that the mean profitability of the sector increased from 2008 to 2012 by 57.14%. In the banking industry, ROA of more than 1.5% indicates good performance (Flamini et al, 2009). Therefore this means that the performance of the sector was comparable to international standards. This is very important for the development of this country as banks play a very important role of financial intermediation. However analysis by bank size indicates that, large banks enjoyed more profit increase than small and medium banks during this period. From 2008 to 2012 the average profitability of the large banks increased by 46.67%, while for small and medium banks increased by only 14.29%. This lends support to the argument that the local banking market is largely dominated by larger banks.

4.3 Relationship between profitability and lending rate

4.3.1 Regression Analysis for ROS = ratio of net income to total turnover

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

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

Whereby β_0 and β_1 are constants with β_0 being the response intercept and β_1 being the coefficient of X

Y = Profit in percentage of Return on Sales (ROS)

X = Lending Interest Rate (LIR)

ε = Error term

Table 4.3: Model Summary for ROS (2008-2012)

Model		R	R Square	Adjusted R Square	Std. Error of the Estimate
Dimension	1	.215a	0.046	0.145	0.61152

Predictors: (Constant), Lending Interest Rate

According to the model summary presented in table 4.3 above, the correlation between Lending Interest Rate and Ratio of net income to turnover is 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 0.046.

Table 4. 4: Analysis of Variance (ANOVA) (2008-2012 profit sector).

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.09	1	0.09	0.841	.004a
	Residual	1.87	5	0.374		
	Total	1.96	6			

a. Predictors: (Constant), Lending Interest Rate

b. Dependent Variable: profit sector

From ANOVA statistics, regressing ROS against lending interest rate gives a high significant model in prediction given an F-significance value of 0.841. That is, the

regression model can be 84.1% right in its prediction. The high percentage shows that ROS has effect on Lending Interest Rate

Table 4. 5: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	2.77	1.786		1.551	0.002
	Lending Rate	0.062	0.126	0.215	0.491	0.004

Dependent Variable: profitability

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

$$\mathbf{ROS} = 2.77 + 0.062 \mathbf{LIR} + \varepsilon$$

From the regression model above, taking LIR at zero, the value of ROS ratio would be 2.77. The model also shows that a unitary increase in the level of lending rate leads to a 0.062 increase in the level of ROS. However the model might be 84.1% right in its prediction as shown by the t and F significances.

4.3.2 Regression Analysis for ROA (ratio of net income to assets)

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

$$\mathbf{Y} = \beta_0 + \beta_1 \mathbf{X} + \varepsilon$$

Whereby β_0 and β_1 are constants with β_0 being the response intercept and β_1 being the coefficient of X

Y = the profit Ratio in percentage (ROA)

X = Lending Rate (LIR)

ϵ = Error term

Table 4. 6: Model Summary and Analysis of Variance

Model		R	R Square	Adjusted R Square	Std. Error of the Estimate
Dimension	1	.525a	0.276	0.131	0.84911

Predictors: (Constant), lending interest rate

According to the model summary presented in the table above, the correlation between lending interest rate and ROA ratio was 0.525; this points to a positive 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 Square	F	Sig.
1	Regression	1.372	1	1.372	0.7903	.006a
	Residual	3.605	5	0.721		
	Total	4.977	6			

a. Predictors: (Constant), lending interest rate

b. Dependent Variable: large banks

From ANOVA statistics, regressing ROA against lending interest rate gives a significant model in prediction given an F-significance value of 0.7903. That is, the regression model can be 79.03% right in its prediction.

Table 4.8: Coefficients (a)

Model		Unstandardized	Std. Error	Standardized	t	Sig.
		Coefficients		Coefficients		
		B		Beta		
1	(Constant)	6.334	2.479		2.555	0.001
	LIR	0.242	0.175	0.525	1.38	0.006

Dependent Variable: large banks

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

$$\text{ROA} = 6.334 + 0.242 \text{ LR} + \varepsilon$$

From the regression model above, taking LIR at zero, the value of ROA ratio would be 6.334. The model also shows that a unitary increase in the level of lending interest rate leads to a 0.242 increase in the level of ROA. However the model might be 79.03% right in its prediction as shown by the t and F significances.

4.3.3 Regression Analysis for ROE (ratio of net income to equity)

The study further performed a linear regression analysis on the lending rate of small and medium banks and ROE to establish the correlation and relationship among them. The linear regression equation was of the form:

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

Whereby: β_0 and β_1 are constants with β_0 being the response intercept and β_1 being the coefficient of X

Y = the **ratio of net income to equity** in percentage (ROE)

X = Lending Rate (LIR)

ε = Error term

Table 4.9: Model Summary

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

Predictors: (Constant), Lending Interest Rate

According to the model summary presented in the table above, the correlation between lending rate and ROE 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) (ROE against interest rate 2008)

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	0.016	1	0.016	0.049	.833a
	Residual	1.638	5	0.328		
	Total	1.654	6			

a. Predictors: (Constant), lending rate

b. Dependent Variable: ratio of net income to equity

From ANOVA statistics, regressing ROE against lending rate 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		Standardized		
		Coefficients		Coefficients		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	1.104	1.671		0.66	0.538
	lending rate	0.026	0.118	0.099	0.222	0.833

Dependent Variable: Ratio Of Net Income To Equity

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

$$\text{ROE} = 1.104 + 0.026 \text{ LIR} + \varepsilon$$

From the regression model above, taking LIR at zero, the value of ROE ratio would be 1.104. The model also shows that a unitary increase in the level of lending rate leads to a 0.026 increase in the level of ROE. However the model might be 4.9% wrong in its prediction as shown by the t and F significances.

4.4 Summary of CBK Statistics

The prevailing margin between deposit-lending rates, the lending interest rate (LIR) in an economy has important implications for the growth and development of such economy, as numerous authors suggest a critical link between the efficiency of bank intermediation and economic growth.

Quaden (2004), for example, argues that a more efficient banking system benefits the real economy by allowing 'higher expected returns for savers with a financial surplus, and lower borrowing costs for investing in new projects that need external finance.

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 2012) on NPLs and lending interest rate. The data was then presented in table below.

Table 4. 12: Aggregate performance of Commercial Banks and Lending rate Data from 2008 to 2012

Year	Gross Loans and Advances in million	Gross profitability and Advances in million	Loans Ratio (%)	Interest Rate
2008	261418	35934	13.75	18.34
2009	315321	109898	34.85	13.47
2010	382290	111889	29.27	12.25
2011	417300	106500	25.52	13.16
2012	473100	100700	21.29	13.64
Maximum	670372	111889	34.85	25.19
Minimum	417300	56800	9.23	12.25

Source: CBK Statistics

According to the table, the maximum aggregate loan advances for the study period approximated 670 billion while the minimum amount was 417 billion. The maximum gross loans were 112 billion while the minimum annual value was 57 billion. Figure 15 presents a trend line showing clearly the interaction between gross loan advanced by the commercial banks in Kenya and the consequent level of non-performing loans.

4.4.1 Regression Analysis on the lending rate and Performance

The study further performed a linear regression analysis on the lending rate and performance to establish the correlation and relationship among them. The linear regression equation was of the form:

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

Whereby β_0 and β_1 are constants with β_0 being the response intercept and β_1 being the coefficient of X

Y = the performance in percentage

X = Lending Rate (LR)

ε = Error term

Table 4. 13: Model Summary and Analysis of Variance

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

According to the model summary presented in table 9 above, the correlation between lending interest rate 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 lending interest rate 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 Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
(Constant)	9.601	12.831		0.748	0.476
Interest Rate Spread	0.898	0.767	0.382	1.171	0.275

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

$$\text{NPL} = 9.601 + 0.898 \text{ LR} + \varepsilon$$

From the regression model above, taking LIR 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 lending rate 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.

Banks are exposed to credit risk due to information asymmetry. Banks do not know ex ante the proportion of loans that will perform and even when they carry out appraisals, credit losses are not fully eliminated. To cover credit risk, banks charge a premium whose size depends on the bank credit policy, interest on alternative assets, amount borrowed, and type of client and size of collateral. These increases the effective rates paid by borrowers and reduce the demand for loans.

According to table 1, the maximum aggregate loan advances for the study period approximated 670 billion while the minimum amount was 417 billion. The maximum gross NPA was 112 billion while the minimum annual value was 57 billion

4.4.2 Interaction between Lending rate and NPA Ratio

According to table 4.11, the maximum value of non-performing asset ratio was approximated at 34.85% while the minimum value was 9.23. The maximum lending rate value was 25.19% while the minimum value was 12.25%.

4.5 Analysis of CBK Reports

4.5.1 Regulations

On regulations, the findings showed that CBK regulates interest rates charged by banks through interest rate ceiling. The banks' Lending interest rates policies are enforced by board of directors, managing directors and credit risk management committees. The study also found that the interest rate policies and regulations there-to are relevant in mitigating interest rates, moral hazards and loan defaults.

4.5.2 Cost of loans

On the cost of loans, that different types of loans affect their cost differently, therefore, the type of interest rates adopted by banks influences the non-performing assets. For instance, fixed interest rate was found to contribute more to NPA since the cost interval was found to be high making the borrower pay more at the end of the loan period than he/she should have under floating interest rates as fixed interest rates are loaded upfront. Floating interest rates interrupts borrowers' budget are interrupted hence they are unable to repay loans as planned given the unanticipated interest in business growth, vary throughout the year, interest doubles in case of. In cognizance of this, the findings showed that majority of the commercial banks adopt both fixed and floating interest rates. In order to mitigate the cost of loans, most of the banks review the same on either a monthly basis or continuously as a credit risk management

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Summary

The study found that increase in interest rate caused an increase in profitability, though at a very small rate. Increase in the level of lending rate leads to a 0.898 increase in the level of NPL. Banks are exposed to credit risk due to information asymmetry.

The banks' lending rates policies are enforced by board of directors, managing directors and credit risk management committees. Fixed interest rate was found to contribute more to NPA since the cost interval was found to be high making the borrower pay more at the end of the loan period than he/she should have under floating lending rates as fixed lending rates are loaded upfront.

Floating lending rates interrupts borrowers' budget are interrupted hence they are unable to repay loans as planned given the unanticipated interest in business growth, vary throughout the year, interest doubles in case of. In cognizance of this, the findings showed that majority of the commercial banks adopt both fixed and floating interest rates. In order to mitigate the cost of loans, most of the banks review the same on either a monthly basis or continuously as a credit risk management.

5.2 Conclusions

Lending rate affect the non-performing assets in banks as it increases the cost of loans charged on the borrowers. Mode or type of interest rate charged (whether fixed or float) for they all have different dynamics that might affect the borrower's ability to repay credit loaned. Goldstein and Turner (1996) also concluded that accumulation of non-performing assets is attributable to high cost of loans.

Regulations on lending rates have far reaching effects on loan non-performance for such regulations determine the lending rate in banks and also help mitigate moral hazards incidental to NPAs. When the regulations are lax or ineffective, the level of non-

performing assets increases. In Kenya, banks specific policies and regulations are the responsibility of board of directors, managing directors and credit risk management committees. This concurs with Demirguc-Kunt and Huizinga (1997) finding that stringent regulations enforced by central banks lower realized interest margins (spread) and subsequently loan non-performance.

Credit risk management technique remotely affects the value of a bank's lending rates spread as lending rates are benchmarked against the associated non-performing assets. Credit risk assessment and management ensures that loan are channeled to intended purposes, loans are allocated to only those who qualify/can repay, loan security/collateral is enough to cover loan, assessment of the character of the loan candidate and there is sufficient margin to cover loan. Credit risk management, therefore, directly influences the level of asset nonperformance in commercial banks.

5.3 Recommendations

Since cost of loans does influence asset non-performance, the study recommends that commercial banks in Kenya should assess their clients and charge interest rates accordingly, as ineffective interest rate policy can increase the level of lending rates and consequently NPA. Given that the type of interest rates charged on loans (fixed and floats) dictates on the ability and flexibility of borrowers to repay loans, the study recommends that commercial banks should have a mixed interest rate policy as each type has its advantage and disadvantage.

The central banks should apply stringent regulations on lending rates charged by banks so as to regulate their interest rate. Commercial banks should also apply rigorous policies on loan advances so as loans are awarded to those with ability to repay and mitigate moral hazards such as insider lending and information asymmetry.

Banks should apply efficient and effective credit risk management that will ensure that loans are matched with ability to repay, no or minimal insider lending, loan defaults are projected accordingly and relevant measures taken to minimize the same. The banks

should also enhance periodic/regular credit risk monitoring of their loan portfolios to reduce the level of NPA.

It is necessary to strengthen the institutional framework, including review of the regulatory and legal framework. This should target enhancing confidence among depositors and investors and strengthening enforceability of loan contracts. As a result, this will enhance stability in the financial sector and reduce costs of capital to investors. It should also serve to strengthen the supervisory and monetary control role of the Central Bank and will avoid the current conflict between monetary and fiscal policy in the use of open market operations in the sale of Treasury bills. At the same time, there is an urgent need to strengthen the credibility of monetary policy. This also allows the financial sector to gain stability and thus reduce risk to investors. Enhancing enforcement of contracts would also reduce risk premium in the financial sector.

Macroeconomic stability is vital for a successful financial liberalization process, thus policy actions should be taken to ensure sustainable growth of the economy. Stability of key prices, including the exchange rate, commodity prices and interest rates, is crucial. This will stimulate high investment returns and reduce the credit risk, consequently reducing the risk premium tagged on loan interest rate. In addition, it would discourage banks from non-intermediation activities while enhancing the move towards an equilibrium position in the loans market.

Implicit taxes should be kept at minimal levels by maintaining low reserve- and cash-requirement ratios. This will ensure that lending rates are kept down as banks endeavour to maintain their profit margins. Banks should perform more of the intermediation process than investing in short-term Treasury bills, and this could be achieved by re-aligning Treasury bill rates with other returns on shortrun financial assets and pushing for competitiveness in the market. The end result will be to force banks to divert their efforts to investing in information capital, thus reducing the moral-hazard and adverse-selection problems that are compounded by poor monitoring and evaluation of the investment projects.

Conduct of monetary policy should be in line with the goals of financial-sector reform and the conduct of monetary policy should support financial-sector growth. This can be achieved by using the main instrument of monetary policy, that is, the interest rate. So far it has worked to discourage financial intermediation and to turn banks into short-term deposit-taking institutions. Fortunately, some banks have recently realized that this route has weakened their operations and are reverting to long-term finance.

5.4 Areas for further research

For a more encompassing and exhaustive empirical analysis, disaggregated financial data, especially for the banking subsector are required. These data are required in order to capture factors such as: market power, transaction costs, banks' adjustment strategies at the end of the period, in-depth study on institutions and risk analysis.

In addition, it would be interesting to examine the information content of the spread in terms of forecasting macroeconomic variables such as investment, inflation and growth. To find out the relationship between the bank interest rate margin and growth of the economy and the implication of widening spread on investment and mobilization of savings.

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APPENDIX I: LIST OF BANKS IN KENYA QUOTED IN NSE

1. Equity Bank Limited
2. Barclays Bank of Kenya
3. Standard Chartered Bank
4. Kenya Commercial Bank
5. National Bank of Kenya
6. CFC Bank
7. NIC Bank
8. Diamond Trust Bank
9. HFCK
10. I & M Holding Limited
11. Co-operative Bank of Kenya Limited

APPENDIX II: LIST OF 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. Chase Bank (K) Ltd.
8. Citibank N.A Kenya
9. Commercial Bank of Africa Ltd.
10. Consolidated Bank of Kenya Ltd.
11. Co-operative Bank of Kenya Ltd.
12. Credit Bank Ltd.
13. Development Bank of Kenya Ltd.
14. Diamond Trust Bank (K) Ltd.
15. Dubai Bank Kenya Ltd.
16. Ecobank Kenya Ltd
17. Equatorial Commercial Bank Ltd.
18. Equity Bank Ltd.
19. Family Bank Ltd
20. Fidelity Commercial Bank Ltd
21. Fina Bank Ltd
22. FLRt community Bank Limited
23. Giro Commercial Bank Ltd.
24. Guardian Bank Ltd
25. Gulf African Bank Limited
26. Habib Bank A.G Zurich
27. Habib Bank Ltd.
28. Housing Finance of Kenya Ltd.
29. I & M Bank Ltd
30. Imperial Bank Ltd.

31. Jamii Bora Bank Ltd.
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 Ltd
40. Standard Chartered Bank (K) Ltd
41. Trans-National Bank Ltd
42. Victoria Commercial Bank Ltd
43. UBA Kenya Bank Ltd.