RELATIONSHIP BETWEEN COST EFFICIENCY AND NON-PERFORMING LOANS OF COMMERCIAL BANKS IN KENYA

BY

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DECLARATION

I declare that this project is my original work and has never been submitted for a degree in any other university or college for examination/academic purposes.

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D61/76925/2014

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

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DEDICATION

To my family for standing beside me during this entire study period; Further to my friends who continuously supported me and lastly to my Employee and colleagues at work for encouragement toward successful completion of this course.

ABSTRACT

In third world countries, efficiency of the banking system is particularly vital because the banking organization serves as the central nerve for the total financial development in terms of economic growth. A large bulk of non-performing loans in failing institutions has been named as the source of bank and thrift decline and that a significant predictor of insolvency is statistically asset quality. Failing bank, according to researchers, usually drift far from the best system perimeter. Large number of problem loans and low cost efficiency are often a characteristic of banks heading towards failure. The growing level of NPLs has led to incompetency and even placement of banks under receivership including the latest case of Chase Bank. None of the previous researchers have considered the relationship amid NPLs loans and cost efficiency of commercial banks in Kenya. The aim of this research study was to find the correlation among problem loans and cost efficiency regarding banks in Kenya that are commercial. As per the research, the four independent variables that were studied (non-performing loans, asset quality, bank liquidity and credit risk) explain a substantial 80.7% of cost efficiency between commercial banks in Kenya. The study also settles that credit risk negatively and significantly impacts the cost efficiency between banks in Kenya that are commercial. The analysis advocates that the Central bank of Kenya, being the regulator of banking sector should consider reporting on ratios rather than mere changes in trends of specific items especially NPL sand profitability. The reporting of mere increases in NPLs by commercial could be misleading as ratios such as return on, NPLs ratio, assets and NPLs coverage ratio can enhance understandability of relationships between changes in profitability and non-performing loans gross volumes. Central bank and shareholders of commercial banks in Kenya should be aware of the probable use of provisions for losses on non-performing loans used by managers for the purpose of smoothening of profits & develop financial reporting models that can help prevent occurrence of the menace. The shareholders specifically should be ready to meet agency costs to reduce manager's information asymmetry by hiring competent internal and external auditors. The main regulator of all commercial banks being The Central Bank of Kenya, they should undertake the task of controlling the credit risk by setting the maximum limits of credit to be imposed by commercial banks on loans and earned on deposits. The firms should consider cost efficiency analysis as an important factor in their profitability and risk analysis and management. Moral hazard and adverse risks selection mitigation should be encouraged when in the process of giving out loans by management of commercial banks and this will help to lessen the transpiration of non-performing loans. Through lessening of moral hazard and adverse

selection risk when giving out loans, non-performing loans will tend to reduce in number. This can be accomplished by, effective internal control systems, good credit appraisal procedures, diversification, followed by an attempt to better the quality of assets in the balance sheets. A challenge faced by commercial banks in Kenya is maintaining profitability, and this can be curbed through remaining innovative specifically on cost cutting techniques which includes lessening occurrences of non-performing loans and leveraging in technology. The central banks should apply stringent regulations on bank liquidity so as to regulate their cost efficiency. Policies that promote, advance and support competition in the financial sector, coupled with measures which foster the growth and advancement of the image of small and medium sized banks in a bid to enter the market, should be utilized to further increase competition in the banking sector.

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ANOVA	-	Analysis of variance
CBK	-	Central Bank of Kenya
GDP	-	Gross Domestic Product
IMF	-	International Monetary Fund
KCB	-	Kenya Commercial Bank's
NPLs	-	Non-Performing Loans
NSE	-	Nairobi Securities Exchange
SACCOS	-	Saving and Credit Cooperative Society

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

When more than 90 days have passed and payments of interest and principal have not been made, or at least in those 90 days, payment have been refinanced, capitalized, or delayed through the understanding between the parties, this we can define as Non-Performing Loans (NPLs). They can also be called NPLs when they are not past due by 90 days, but the management feels like there exists viable reasons to believe that full payments of the loan shall not be made (IMF, 2009).

Hennie and Sonja (2009) describe NPLs as assets that are not producing income. This is the circumstance whereby more than 90 days have passed and the principal or interests have not been paid. Loan dodging is unavoidable in any commercial bank but they can be reduced. According to Munoz (2013), non-performing loans are directly related to crises in banking. The soaring number of problem loans in Kenya continually becomes a problem of major a huge supervisory worry. Loans that have not been paid in not less than ninety days are also generally termed as Non-performing loans (Guy, 2011). Assets' worth in technologies that lend is mainly gauged by the measure of NPLs and a direct and interconnected correlation between the two has been established. (Shaffer, 2012).

This study is based on five theories including; asymmetric information theory, agency theory, moral hazard theory and credit market theory. Asymmetric information theory emphasizes that one party has dissimilar information to another. Borrowing and lending in the financial market requires the utilization of the asymmetric information. The borrower usually holds better info concerning his financial status than the lender, in a market like that. The theory of Agency pursues to clarify the correlation amid the entity's owners and administration of a company who are commonly the people in possession of the stocks for the entity. In the event that a party to a transaction has not recorded an action, in form of a contract with honest intentions, this could either be that they have presented ambiguous or deceitful information about his credit bulk, assets or liabilities, or has an enticement to take uncommon endangers in an effort to acquire a profit before the settling of the contract, is best described as a danger in the moral hazard theory. Evidences of the problems that the moral hazard presents in banks and other financial institutions were discovered at many phases of the recent financial crisis (Munoz, 2013). Credit market theory postulates that, the

lending rate alone will be the one that decides the sum of credit given away by the banking sector if collateral and other relevant constraints stay constant.

The non-performing loans level has over the years been steadily growing (Bank Supervision Annual Report 2014). It has been noted that even the finest banks with the most exceptional lending strategies and processes have occasionally fallen victims of non-performing loans from time to time. The significant consequences of problem loans have even policy makers in the banks worrying. The problem loans have led to some financial institution having gotten into the state of liquidation thus ending up shutting down (Central Bank Annual Report, 2014). The annual reports by the Central Bank of Kenya (2012), records that in the last three years, the banking industry had been registering a very large number Non-Performing Loans (NPLs). According to the report there was a fall in NPLs between 2009 and 2012. The report indicated that that in the year 2009/2010, the NPLs were 61.5 billion (7.4%), in the year 2010/2011; NPLs were 58.3 billion (5.4%), and lastly in the year 2011/2012, the NPLs were 57.5 billion (4.5%). Though the report shows that there has been some reduction in the NPLs, the figures are still worryingly huge. Thus nonperforming loans have been depicted as a key reason for bank inefficiency.

1.1.1 Non-Performing Loans

Non-performing loans (NPLs) are a global obstacle that impacts the constancy of financial markets and the feasibility of the banking industry. Njure (2014), states that originally, NPLs may not appear to have a solemn adverse impact. Banks remain liquid and depositors hold their assurance in the system. Over time, though, the scope of the issue grows, particularly if banks are permitted to accumulate interest on their non-performing loans. According to IMF, a loan becomes non-performing when its more than 90 days and imbursement of interest and principal have not been made. Other than that it may also be that in not less than those 90 days, payment have been refinanced, capitalized, or delayed through the understanding of both parties or that payment are less than 90 days overdue, however, the management feels like there exists viable reasons to believe that full payments of the loan shall not be made. Therefore, the bank runs into trouble with non-performing loans.

When more than 90 days have passed and payments of interest and principal have not been made, this we can define as Non-Performing Loans (NPLs). They can also be called NPLs when they are not past due by 90 days, but

Non-Performing Loans(NPLs) impacts the purpose of financial intermediation of financial institutions, which then affects the main income generator of the bank, and in the end, the financial dependability of an economy and they hence become significant (Fafack, 2013). Thus, NPLs have gradually caught the attention recognizing that an impact of huge quantity of NPLs in the banking system is bank collapse and indication of economic slowdown. Since NPLs have a direct and adverse impact on the profit gain because of the deliveries with which the banking institutions are required to record, they affect the productivity performance of any commercial bank. (Ezeoha, 2011).

Less pressure to revenue generation is asserted to banks with huge cost-effectiveness, and thus they are less driven to involve in uncertain credit offerings. Unproductive banks are similarly likely to face huge levels of problematic loans. Incompetent management can suggest poor control for both operating costs and credit worth of clients, which will bring large levels of capital losses. Under this bad administration hypothesis put forward by Njihia (2005), managers lack capabilities to efficiently measure and regulate risks sustained when lending to new customers. Other researchers have observed that an upsurge in NPLs rate is a sign of the lack of credible credit policy (Sakina, 2012). Clara (2011) states that in both developing and developed countries financial disasters and performance glitches of banks are primarily linked to large percentages NPLs.

1.1.2 Cost Efficiency

'Cost efficiency resembles respectively to two economic aims of cost reduction and profit increase' (CBK, 2011). Cost effectiveness can be described as the scale of comparison between the realized cost and the least cost at which it is probable of attaining of a specific production volume. The impression of competence on bank cost-effectiveness can be assessed by The Expense to Income ratio which is also used as deputation for working competence. There exists a likely negative relationship between the operating cost and success inferring in that a greater operating cost translates to lesser profit and vice- versa. Goods and services should be made at a small cost and capitalizing revenues, as this is the objective demand of exploiting profits that is appropriate to commercial banks. (Lata, 2014). Hennie and Sonja (2009) contend that little cost productivity (high inefficiency) is an indication of poor performance of senior administration in managing day-to-day actions and loan portfolio. Fofack (2013) argue that a bank is likely to face a buildup of NPLs if it has poor management with inefficient skills in assessment of pledged securities, credit recording and following up of borrowers. Banks which offer minimum attempt to secure a loan of a

high value will tend to be more productive in cost (Sakina, 2012). When there is improved spending management (lower cost to asset ratio) tends to boosts competence and ultimately leads to bigger profits, and because of that, this reasoning proposes a poor relationship. To assess cost efficiency, the study embraced the view of Shaffer (2012) who contended that effective cost (expenses) administration is a significant cause of bank profitability. Operating expenditures alone will be regarded as the result of proper bank managing i.e. Cost efficiency = Total operating costs/Total revenue, hence it is commonly quantified by the ratio of overall operating costs to overall revenue since poor expenses running are the chief factor to the poor performance (Shaffer 2012). To smoothen profits, management too has the possibility of engaging in illegal actions such as; using provisions for losses on Non-performing Loans (assets). An important disclaimer is that smoothening of income is befoulment based on International Accounting Standards (IAS.39) that determines the provisioning. With the indication of losses or deficiency incurred, such is exclusively founded (Lata, 2014). Irregularities in information is driven by a prime fiction referred to as smoothing since insiders are repugnant to action selection that would lead to an increment of outsider prospect excessively prior an income. Smoothing in earnings presence indication smoothing via provisions especially in develop countries is still fairly robust (Njihia, 2005).

1.1.3 Relationship between Non-Performing Loans and Cost Efficiency among Commercial Banks

To handle and administer the collection process when the banks list the amount of loan to be collected, they will tend to become liable to additional working charges from non-value added processes. These non-value-added activities comprise of being cautious of the collateral value, regularly following the debtor's monetary status, discussing planning in amortization, contract negotiation expenditure payment, collateral depositing and disposal as loans become non payable and the calculation of the cost to retain (Ezeoha, 2011). Additionally, other services may constantly ignore problems; the senior management is informed about quality issues in loans, the probability of future cost increases, leading to deterioration in bank efficiency.

According to Berger and DeYoung (1997), loans considered nonperforming in financial institutions are affected by banking firm's competence, an association that was clarified by an established bad management hypothesis.Auronen (2013), claimed that the process of giving loans will be highly affected by these bad administrations of the banking firms which will eventually lead to the banks incompetence. Evaluation skills that are poor by a

company can result to poor evaluation and assessment of the credit application of its clients. Lenders and borrowers asymmetric information challenge, in addition, will further complicate the matter. Fofact (2013) states that besides the above mentioned, the management might not be competent when managing loan portfolios. This further leads to a high probability of default amounting to non-performing loans that are higher and lower credit ratings for the approved loans. Thus, the banks' incompetence's may lead to a higher non-performing.

1.1.4 Commercial Banks in Kenya

The Companies Act, the Central Bank Act, the Banking Act, and other provident guidelines steers the banking sector in Kenya**.** The Central bank is the principal supervisor of all commercial banks (CBK, 2013). It articulates the monetary strategies and controls elements such as liquidity, solvency and the right functioning of the financial structure. These commercial banks have come joined to form the Kenya Bankers Association, which forecast aspects such as the interests of the banks and other issues that impact its members (Kenya Bankers Association Annual Report 2008). There are 43 commercial banks in Kenya with some being domestically owned whereas others are foreign. These banks provide both retail and services while a few of them also offer other services such as investment banking. They are exposed to a diversity of dangers, since these are financial institutions. Among them are; foreign exchange risk, market risk, political risk, interest rate risk, liquidity risk, operational risk and credit risk (Aduda, & King'oo, 2012). The level of competition is very high in Kenya. This is characterized by a majority of the banks embracing technology in customer service and satisfaction. Majority of these banks have mobile phone enabled facilities to maximize on customer retention. Others have adopted mobile banking for simplicity of customer reach. Some of the banks have floated shares in the NSE to facilitate growth. Such comprise the Cooperative Bank of Kenya and Equity Bank. The offer of rights issue by banks such as Kenya commercial Bank, and the imminent problem by NIC Bank is a sign of excellent performance (Aduda & King'oo, 2012).

Munoz **(**2013**)** studying causes of non-performing loans found that the prevailing economic conditions were the major economic factor affecting the levels of NPLs at 41.7% compared to 14.6% for real GDP. Bank ownership, poor loan monitoring/follow-up and effective risk assessment were seen as the major cause of NPLs at 26%, 10.4% and 47.9% respectively. However, the reports of the studies conducted between 2007 and 2008 indicated a decline in NPLs in Kenya (Onsarigo, Selvan, Ramkumar & Karpagam, 2013). It was found that there

was a 17.5% decline in NPLs between June 2007 and June 2008, from Kshs 70.7 billion to 58.3 billion, which was accredited to recoveries and write-offs (Onsarigo, *et al.,* 2013). Nonetheless, while trends indicate a general decline in NPLs in Kenyan banks, the 2007 – 2008 post-election violence experienced in the country reversed the trend. There was a general increase in the level of NPLs by approximately Kshs 1 billion between December 2007 and June 2008 (from Kshs 57.2 billion to 58.3 billion) (Ng'etich, 2011).

Non-performing loans have been attributed as being among the dominant factor of bank failures in Kenya and government and Banking sector have taken some steps to lessen the number of NPLs including introduction of credit reference bureaus. CBK (2013) reported an increase in ration of NPLs to gross loans from between December 2012 to December 2013 have gone to 5.5 percent from 4.7 percent. There was an increase in pre-tax profit in the banking sector in the same time range from Kshs. 107.9 billion to Kshs. 125.8 billion a 16.6 percentage.

1.2 Research Problem

In developing countries, efficiency of the banking system is vital particularly because the banking system acts as the basis for general financial growth in terms of economic development (Thuo, 2014). This is largely due to the reason that an effective banking system will help to advance national revenue and wealth. Correspondingly, it would motivate depositors to make more deposits and as a result monetary advancement will be boosted. Developments in efficiency and productivity advances can be regarded as one of the aims of an organization in a competitive market (Clara, 2011). As mentioned earlier, most research on bank and thrift meltdown causes was a result of non-performing loans of large sizes by deteriorating banks and also high value of assets that is a major bankruptcy predictor, statistically it could appear that there is hardly a relationship between non-performing loan and cost efficiency not only because there lacks loan customer screening and monitoring by operation personnel but also that the overseeing of operations cost is not done by loan officers or review personnel cost efficiency and loan problem issues tend to be intertwined in many essential ways in spite of a dichotomy considered apparent. Based on researchers' explanation, bank failure is linked to a location, far from the best practice frontier thus banks heading toward failure experience low cost efficiency and their problem ration loans are high.

A number of other studies have exposed a harmful relationship that exists between competence and problem loans amongst the banks that never fail (Barr & Siems, 2012).

There are a number of reasons as to why difficulties in loan performances are experienced by banks which usually are cost-ineffective an example being, these banks with poor high ranking supervisors may incur difficulties when it is time to monitor both their loan customers and their costs, with experienced capital loss brought about by both these phenomena and thus potentially causing failure. Regional economic downturns may be an external cause of loan quality problems, in which case, additional expenses related to the non-performing loans workout arrangement negotiation, collateral seizing and disposing, focus on diverted senior managerial may build an illusion, if not an actuality of low cost effectiveness. This increase in non-performing loans (NPLs) looks like it's taking its toll on some banks, with some posting flat profits. The single greatest agent influencing the trustworthiness of banks, and the financial organizations credit risk, and lending is the main activity, business-wise for a number of banks (CBK, 2013). Kenya Commercial Bank's (KCB) net non-performing loans and advances grew by 72 per cent to Sh8.81 billion for the half-year ended June 30, up from Sh5.1 billion in a similar period last year. Equity Bank Group's net NPLs more than tripled (222 per cent to Sh3.45 billion from Sh1.07 billion while Standard Chartered Bank Kenya net NPL and advances more than doubled 116 per cent to Sh2.42 billion from Sh1.12 billion. Cooperative Bank's net NPL and advances increased by 55 per cent to Sh3.35 billion from Sh2.15 billion in the same period. Barclays Bank's net NPL and advances decreased six per cent to Sh912.86 million from Sh971 million owing to an upsurge in loan loss provisions to Sh581.15 million from Sh458.92 million. Central Bank of Kenya (2013) also recorded that National Bank's proportion of non-performing assets in the first three months of this year increased by 171 per cent to Sh1.77 billion from 652.72 million in December 2012. This ever-increasing standard of non-performing loans is attributed to the inefficiency and placement of banks under destitution including the latest case of Chase Bank.

Locally, numerous studies have been done on bank productivity. Thuo (2014) assessed the relationship between microeconomic variables and the effectiveness of commercial banks in Kenya and resolved that the magnitude, management eminence and capitalization positively and expressively impacted effectiveness of commercial banks in Kenya while credit risk unfavorably influenced the competence of commercial banks in Kenya. Gaitho (2015) examined the factors of cost productivity level of commercial banks in Kenya where branch size, government securities, advanced loans and inflation were found to have confident and considerable significance on the effectiveness level. Kamau (2015) also studied the impacts of listing of loan nonpayer's by credit position bureaus on problem loans of bank in Kenya

that are commercial and established that listing of defaulters was an appealing factor for borrowers to pay their loans thus cutting down the level of non-performing loans. Kirui (2014) gauged the impact of problem loans on the success of banks in Kenya that are commercial and established that non-performing loans were harmfully affecting cost-effectiveness of commercial banks. Finally, Manyuanda (2014) inspected the impact of NPLs on the financial status of savings and credit co-operative societies in Nairobi County and established that SACCOS are adversely impacted by non-performing loans. Yet, none of these researchers has assessed the connection amid NPLs and cost efficacy of commercial banks in Kenya. This study thus pursued to answer the question; is there a correlation between problem loans and cost efficiency of commercial banks in Kenya? And is so, what is it?

1.3 Research Objectives

The aim of this research study was to find out the correlation between non-performing loans and cost efficiency of commercial banks in Kenya.

1.4 Value of the study

Additional value to theory and practice shall be offered in this study. First, the results of the analysis will make the commercial banks administration to acknowledge the need for monitoring and the controlling of the problem loans as it correspondingly influences the profitability by way of the existing stipulations produced by the commercial banks. The results will in turn inspire bank management to take part in policy design as much as cost competence is concerned; the study will also add value to the whole banking sector particularly in the challenging concerns of cost effectiveness and non-performing loans.

The research shall assist the Government and other policy makers in the banking industry to devise new strategies for regulating loans disbursements and come up with more factual approaches of administering non-performing loan levels; the research will come in handy to support the Government as a watchdog in its quest to modernize operations in the banking sector putting in mind that the economy as a whole relies on how the banking sector in the economy operates. High levels of NPLs can deter progress in the economy.

Further, the research shall illustrate the importance of Non-Performing Loans, Asset Quality, Bank Liquidity and Credit risk in order to add value to cost efficiency. Lastly, a foundation for further research will be laid through identifying the knowledge gap that shows up in this study. Additionally, a forum for further consultations and debate on non-

performing loans and cost effectiveness shall be established thus making considerable input by enforcing additional awareness to the existing theory.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

This chapter offers a detailed literature review and research related to non-performing loans and cost efficacy of commercial banks. It also gives an analysis of the theoretical framework and empirical review on the independent variables of the study. A summary of the literature and a conceptual framework are also provided.

2.2 Theoretical Review

This section gives an analysis of the relevant theories on which the study is anchored. The specific theories covered include; asymmetric information theory, agency theory, moral hazard theory and credit market theory.

2.2.1 Asymmetric Information Theory

This theory impertinent in circumstances whereby the knowledge is flawed. Particularly, it occurs in situations whereby there is differing information between both the parties. Borrowing and lending in the financial sector requires the utilization of the asymmetric information. The borrower usually holds better information concerning his financial status than the lender, in such a market. The theory in question was introduced the first time by Akerlof (1970) in the essay; "The Market for Lemons". Many believe it to be the most relevant analysis of literature on information economic. Karim, Chan and Hassan (2010) studied the relationship between information asymmetry and information access among participants aiming for economic decision making. Information sharing, the proponents show, reduces detrimental selection through the improvement of banks information on credit applicants.

The theory of asymmetric information, according to Auronen (2003), suggests that it may be hard to tell apart the good and the bad borrowers, and this may lead to a detrimental selection and moral hazard problems. In the market, the theory suggests, the borrower holds more information about the transaction than the lender, and thus he is in a position to bargain with the stipulated requirements of the transaction as compared to the other party (Auronen, 2013). Loan applicants normally have full information about their financial status and their ability to repay loans. However, when applying for loans, they may fail to make full disclosures to the bank so that they can access more financing than they could possibly qualify. This brings about information asymmetry and moral hazard.

2.2.2 Agency Theory

Ross (1973) and Mitnick (1973), were initially the first academics to suggest, the creation of the agency theory. They essentially began its establishment freely and roughly simultaneously. Ross (1973) is accountable for the economic theory of agency, and Mitnick (1973) is accountable for the institutional theory of agency, though the fundamental ideas on these two methods are essentially alike. Certainly, the tactics can be viewed as paired in their usage of comparable ideas under different expectations.

The agency theory is getting a huge number of respects because it has been essential in expounding the financial performance of firms. The hypothesis clears out the connection existing between the owners of the firm, and the management of an entity with who are occasionally the stakeholders for the institution. In most cases, the management is viewed as an agent with whom the stakeholders have contracted for the purposes of increasing the stockholder value in a good financial performance. Thus, the theory postulates that there exists an agency struggle, and the administration is supposed to act in the best interest of the stakeholders and thereby improve the financial expectations of the firm. (Macharia, 2012). The theory however, also postulates that the agents may at times act to benefit their personal interest, and in that case, the performance of the organization will suffer, and the stockholders at this point will have to apply a plan of action to ensure that the agents put the firms best interest first.

(Munoz, 2013). The owners have the option of also issuing threats such as hostile takeover to force the administration to carry out the required duties. In addition, the principal may also incur agency costs such as the audit fee to monitor the performance of the management team.

2.2.3 Moral Hazard Theory

Moral hazard theory suggested by Summers (2007)explains the risk that either the party has offered misleading information about its assets, credit volume, or that the party has not joined the contact willingly or that they have an incentive to take uncommon risks in an effort to make profit before the settling of the contract. The latest financial crisis in banks and other financial institutions were evident of the problems brought about by the ethical hazard (Munoz, 2013). A debtor has the encouragement to default unless there exist penalties for their looming application for credit and thereby arising a moral threat problem. The borrowers will be keen to default borrowing, if the creditors do not assess their wealth.

Hindering this, the lenders will eventually be increasing their lending rates leading to the deterioration of the market (Guy, 2011).

Munoz (2013) noted that current microeconomic structures of banking rely on access to information economics which when the traditional Keynesian and monetarist theories were established was not accessible. Guy (2011) proposed that lessening of administration of nonperforming loans is the central business in the banking business. According to him there is necessity to have suitable administration of nonperforming loans management policy so as to decrease risk of loan evasion since a financial institution's feasibility is destabilized by the loss of principal and interest.

2.2.4 Credit Market Theory

In the neoclassic credit market theory, it is suggested that the market should be cleared for the conditions of the credit. The theory also proposes that quantity of credit that is assigned by the banking sector is only governed by the loaning rate if the security and the other apposite limitations remain given. With a snowballing need for credit, and a permanent supply of the same, consequently, the interest rate will increase. An efficient relationship exists between the chances of avoidance of a debtor and the percentage of interest charged and therefore assumed that the greater the risk of failure by the debtor, the greater the interest premium charged (Macharia, 2012).

Although this theory does not openly deliberate how collateral would impact the risk premium, it makes the indication that collateral has no influence on loaning rate, and if a risky borrower would wish to face the same lending rate as a debtor with a lesser risk, then all that is needed is to pledge more collateral to decrease his risk profile and thus enjoy a lesser risk premium. This brings about the ethical threat and opposing selection singularities, mainly due to information irregularity existing between the creditor and borrowers. The debtor has a more precise valuation of the risk profile of this investment that is not known by the creditor and thus may accomplish secret actions to upturn the risk of his investment without the consciousness of the creditor. The adversative selection issue seems as lenders raise their interest rates to protect themselves from evasion and on the other hand appeal only high risk debtors and eradicate low risk borrowers (Amano, 2014).

2.3 Determinants of Cost Efficiency

This section discusses empirical literature on the determinants of cost efficiency, namely; NPLs, bank liquidity, asset quality, and credit risk.

2.3.1 Non-performing Loans

In studies that use administrative examination data, there appears a second practical connection between non-performing loans and prolific competence. The unsuccessful bank data is constant with the relationship between cost, asset quality and, and advocate that the population of the bank as a whole as well as for failing banks is held by the negative relationship that exists between cost efficacy and problematic loans (Lata, 2014).

Ahmad and Bashir (2013) claim that poor cost productivity (high inefficiency) is an indicative of poor performance by the senior management in carrying the day-to-day activities and loan portfolio. Guy (2011) offer that if a bank has poor management with ineffective skills in scoring of credit, appraising of pledged collaterals and auditing of borrowers, it is likely to experience a buildup of NPLs, and those banks which will be more cost-efficient are those that dedicate less work to guarantee loans of tremendous quality (Berger & DeYoung, 1997). This reasoning ultimately suggests the existence of a poor relationship as a result of enhanced control of operating expenses (lower cost to asset ratio) thereby enhances effectiveness and in the end it translates to bigger profits.

2.3.2 Asset Quality

Asset quality forecasts the degree of credit risk and among the dynamics which affects the health status of a bank. The value of assets controlled by a specific bank relies on the amount of credit risk, and the assets quality controlled through the bank also relies on liability to particular risks, tendencies on NPLs, and the cost-effectiveness of the debtors to the bank (Athanasoglou et al, 2008). Preferably, this ratio ought to be at a minimum. If the lending books are vulnerable to risk in a smoothly operated bank, this would be reflected by advanced interest margins. On the other hand, if the ratio decreases it entails that the risk is not being appropriately recompensed by margins.

Impaired Loans or Loan Loss Reserves a measure of asset quality for banks. The ratio of loan loss reserve to that of NPLs was utilized as proxy for assessing the asset value. The higher the ratio is, the more enhanced the bank becomes provided and thus the more contented it will tend to feel about the assets value. Measurement of charge-off in Net over net income prior the ratio of loan loss provision is against annual generation of income but coincides with charge-offs (Collins, 2010).

2.3.3 Bank Liquidity

The capacity of the institution to fund growths in assets and meet responsibilities as they fall dues represented by liquidity. It is therefore vital to the continued feasibility of any banking organization. There may be wide-spread consequences of liquidity shortfall at an individual bank, since the value of liquidity goes beyond a distinct bank. Aduda and King'oo (2012) argue that the legal lowest prerequisite for liquidity ratio is 20% for banks in Kenya. Interbank Ratio represents cash loaned to other banks (due from other banks) divided by money borrowed from other banks (due to other banks). If it happens that this ratio is greater than 100% then it suggests that the bank is a net placer rather than a debtor of funds in the market place, and thus has more liquid. Interbank ratio depicts cash payable from other banks divided by money payable to other banks. The ratio being higher than 100% indicates that the bank is a net placer and not a debtor, hence it has more liquid.

Net Loans is another measure for bank‘s liquidity. The loan to deposit ratio is a degree of liquidity in so far as large figures implies lesser liquidity. The denominator of this ratio is inclusive of credits and loans taken out with the exemption of capital instruments where deposits and borrowed cash total. Abrupt withdrawal of deposit run off ratio is crucial for checking of customer percentage and funding in the short term, the bigger this percentage is the more liquid the bank is and less susceptible to a definitive run on the bank. Cash, cash payable from other banking firms plus deposits with other banks in addition to dues from central banks plus trading securities comprises of liquid assets (Oloo, 2007).

2.3.4 Credit risk

Credit risk is another important internal factor that influences bank efficiency. Since risk, management is a significant aspect for the operational and survival of banks, any changes in the credit risk will reflect on the loan portfolios condition. Meaning that, ultimately, the poor asset quality will raises the chances of bank’s poor performance (Raheman & Nasr, 2007). Earlier literature proposes that bank risk-taking may be reliant on operating competence. To the extent that bank administrators in regulating banking firms stress risk management and control processes rather than the level of risk per se, a resourceful bank with effective management has more flexibility in taking additional risk than a less competent one, ceteris paribus.

At the same time, operating efficiency may be reliant on bank risk. Risks may be expensive to manage, in the idea that a high-risk firm may need extra capital and labor efforts to get the same level of yields. For example, it may be more costly to follow-up a high-risk loan

portfolio, or to run an extremely incompatible development gap. Put inversely, it may not be expensive to reach risk, but it may be expensive to decrease, because of the expense of recognizing and weeding out high-risk loans during the loan-granting period or to match interest associated assets with interest sensitive liabilities at each reprising interval (Karim et al, 2010).

2.4 Empirical Studies

Alshatti (2012) contended that the true fundamental reason of NPLs is wholly of our own creation and incompetent risk regulation. This is a condition whereby the bank credit administrators do not correctly access the fitness of advancing credit to their clienteles. They fail to stick to the proper lending values. Virtually all affected banks exhibit alike symptoms; insider loaning; bad monitoring of loan accounts, poorly qualified employees, little or no cash flow evaluation of loan requests, unending auditing of customer situations and finally proper follow regarding the usage of the loan as there is a likelihood that the loan may not have been used for the envisioned reason leading to project collapse. This study was limited to the primary aspects only and did not take into account, asset quality, bank liquidity and credit risk.

Salas and Saurina (2002) examined the major root of problem loans in the Spanish Commercial and Savings Banks structural dynamics was used and a1985-1997 dataset panel coverage. The result of the study was that actual growth in GDP, bank size, speedy credit growths, capital ratio and market ability all clarify disparity in NPLs. With a dataset panel encompassing the period 1996-1999, they also used a regression analysis and analyzed the correlation amid NPLs and the model of ownership of banks that are commercial in Taiwan. The study showed that banks bearing advanced government possession documented lesser NPLs. The finding of the analysis showed that bank volume is adversely linked to Non-performing loans while divergence might not be a factor. This study was only restricted to commercial banks on Taiwan.

Chose (2003) likened the reasons of non-performing loans in Germany after the hike of the credit of late in the 1990s with the Japan result of the bubble burst in the early years of 1990s. He claimed that in as much as the Banks in Germany at the time suffered and were classified to be in cathartic state as compared to the banks in Japan, when the course of the collective credit in Germany seemed to have commonalities with that of Japan and, it's less than probable that Japan's credit stoppage became completely compelled through the lack of supply, while that of Germany was caused by demand. He further pointed out that the major

cause as to why Germany experienced the credit crunch was due to the heightened risk of problem loans following the credit boom. Granting that the findings of this study highly contributed to the literature on non-performing loans, the study never included credit risk, bank liquidity and asset quality. In addition, the study was carried out in Germany and Japan whose context is significantly different from Kenya.

Munoz (2013)analyzed the macroeconomic determinants of problem loans through the application of the estimation technique method and a dataset panel of 75 countries ranging over a period of 10 years, which is from 2005 to 2010. The study uncovered that growth in GDP was the major cause of problem loan ratio. In addition, depreciating exchange rates often contributed to an increase in problem loans in countries where there was existence of a high level of lending in foreign currencies to unprotected borrowers This study was only limited to GDP and exchange rate depreciation.

In the local perspective, Ngugi (2004) analyzed the fragile state of the system of banking in Argentina over the 1993-1996 period, and they asserted that the aspects of the specifics of the banks coupled with and macroeconomic together affected NPLs. To set apart the effects of the specifics of the banks the and the factor of macroeconomics, the author applied survey analysis, utilizing a structural model and a dataset panel encompassing the 1985-1997 era to determine the source of NPLs on the Spanish Commercial and Saving banks. The findings of this study were limited to brittleness of the Argentinean banking system.

Wambugu (2010) sought to uncover the correlation between financial performance non-performing loans and management practices of banks in Kenya that are commercial using a causal design, and a population of all 43 commercial banks in Kenya. Such practices include; ensuring sufficient collaterals, limiting lending to various kinds of businesses, loan securitization, ensuring clear assessment framework of lending facilities and use of procedures in solving on problematic loans among others. This study applied a causal effect design to study the relationship between non-performing loans which was the dependent variable and financial performance which was the dependent variable. In addition, the study did not resolve the relationship between NPLs and cost efficiency.

Warue (2012) employed a causal comparative research design based on bank models was embraced and researched the impacts of Macroeconomic factor and Bank Specific on problem loans in commercial bank in Kenya. The period under this study was 1995 to 2009. The study established evidence that bank specific factors donate to NPLs performance at a much bigger magnitude compared to macroeconomic factors. The study focused on both

bank precise and macroeconomic factors. Though, the study did not deliberate credit risk and cost efficiency of the commercial banks.

Macharia (2012) scrutinized the correlation amid the degree of NPLs and the efficiency of banks in Kenya that are commercial, financially. All the 43 banks in Kenya that are commercial constituted the study population at the time. 2005 to 2011 was the period of study. Secondary data from financial statements of banks in Kenya that are commercial were also utilized regarding the analysis for that year. Data from CBK in the initial stages of the analysis indicated that the level of problem loans were immense and financial efficiency was very little in terms of ROA. With time though, the quantity of non-performing loans slowed down with the degree of productivity snow balling considerably. Banks ought to add stress on assessing the borrowers prior to the issuance of any loan for a similar result. The dependent variable for this study was financial efficiency of commercial banks and thus ignored the effects of non-performing loans on cost efficiency.

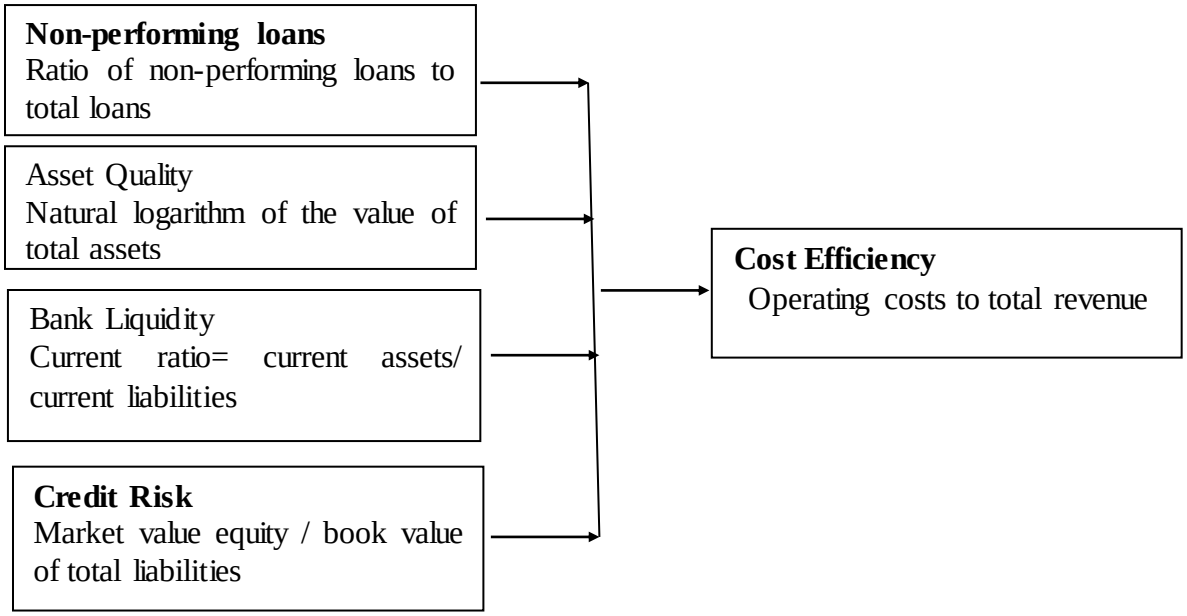
Further, Alshatti (2012) also examined the impact that the credit risk management practices are having on the amount of problem loans. Commercial banks' lending to SMEs in Kenya were studied, and the researcher carried out a descriptive analysis of credit risk management approaches utilized by banks in Kenya that are commercial, and this was done on all the banks, using a simple regression. An analysis of the study recognized that a poor correlation exists amid the Credit Risk Management and NPLs, and thus suggesting that the level of problem loans is inversely impacted by credit risk management activities.

Kirui (2014) assessing the effects of NPLs on profitability of banks in Kenya that are commercial, specified in the study that an adverse impact of NPLs ratio on return on assets exists, thereby verifying that NPLs affects profitability of commercial banks in Kenya negatively. Other issues other than non-performing loans also impacts cost-effectiveness of commercial Banks. This study failed to consider bank liquidity and asset value as variables. In addition, it did not uncover the relationship between NPLs and cost effectiveness among banks in Kenya that are commercial.

Kamau (2015) assessed the impacts of listing of loan defaulters by credit position bureaus on NPLs of banks in Kenya that are commercial. The analysis applied a survey method that is descriptive, targeting at all banks in Kenya that are commercial. They carried out a census of all commercial banks in Kenya. Secondary data was utilized in this study. The research obtained quantitative data. Descriptive and inferential statistics was applied when the figures were put under analysis. The study uncovered that that there was an adverse correlation amid the listing of loan defaulters and the level of NPLs in commercial banks and. The

study also recognized that a boom in inflation led to a reduction in the quantity of NPLs. This study had adequate literature development but it overlooked cost efficacy of commercial banks in Kenya.

2.5 Conceptual Framework



Source: Author (2016)

Banks use fewer resources than they usually do in their credit assessment and loans control routine and this is signified by a huge proportion of non-performing loans and further, these NPLs contribute to incompetence in the banking sector as established by Fan and Shaffer (2004). Asset quality forecasts the degree of credit risk and is a major aspect which impacts the conditions of a banking institution. The degree of credit risk relies upon the asset value controlled by a specific banking institution. The possessions quality controlled by a bank relies upon liability to precise risks, trends in NPLs, and the overall profit and health of bank debtors. The benefit of liquidity reaches beyond the discrete bank as a liquidity shortcoming at a discrete bank can have methodical consequence on the entire firm, group and industry at large. As such an illiquid bank is likely to be incompetent in its operations and working capital management.

2.6 Summary of Literature Review

The chapter has widely reviewed literature connected to cost efficacy of commercial banks and non-performing loans. The analysis of the literature has exposed that non-performing loans can have adverse influence on cost effectiveness; asset quality as shown by loan loss

reserve, also impacts the competence of the bank. The higher this ratio suggests how healthier the bank is. Credit risk and bank liquidity have also been shown to have a direct and inverse relationship respectively. Other countries whose strategic plan and financial foothold are not similar to that of Kenya are where most of these analyses are carried out. There thus exists a literature gap on the correlation amid NPLs and cost efficiency of banks in Kenya that are commercial.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the methodology the researcher used in to uncover the relationship between Non-performing loans and cost efficacy of commercial banks in Kenya. Among the elements put forward in this section include, research design, target population, methods of collecting data and analysis and presentation of data.

3.2 Research Design

This study utilized a descriptive research design. Cooper and Schindler (2003) a descriptive research design is that research design that is concerned with establishing what is happening as far as a particular variable is concerned. It also characterizes a population in reference to essential variables. The design was used for various purposes one of which is to determine relationships between variables. The design fits the proposed study which aimed to determine relationships between variables.

3.3 Target Population

Target population speculates to the specific population from which data is sought from (Ngechu, 2004). The target population of this research study composed of all commercial banks in Kenya. There are forty-three (43) banks in Kenya according to the Central Bank of Kenya's Banking Supervision Report of 2015. Data for the period 2011 to 2015 was analyzed. All these banks were studied since a compelling and completely encompassing finding was reached at eventually.

3.4 Data Collection

This study utilized secondary data relating to operating costs, total revenue, non-performing loans, total loans, total assets, current assets, current liabilities, market value equity and book value of total liabilities among commercial banks were obtained from the CBK, published final accounts of commercial banks, Banking Surveys of various years and Kenya National Bureau of Statistics Publication. Book values, in this study, were used for the computation of various variables.

3.5 Data Analysis and Presentation

The data analysis method used was descriptive statistics. The descriptive statistical tools (SPSS Version 20 and Excel) aided interpretation of data by data. The datum were thereafter

presented using tables and graphs to provide additional analysis and to assist in comparison, while explanation to the table and graphs was given in prose.

3.5.1 Analytical Model

The study further used regression analysis. Multiple regressions were then used to determine the predictive power of independent variables on cost efficiency. Regression method was beneficial for it showcased an approximation of the coefficients of the linear equation engaging one or more independent variables whichever will foretell the value of the dependent variable is able using a regression method. (Cooper and Schindler, 2003).

The regression model was as follows:

$$\mathbf{Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \varepsilon}$$

Where: Y = Cost Efficiency (operating costs to total revenue)

β_0 = Constant Term;

β_1, β_2, β_3, β_4 = Beta coefficients;

X_1= Non-Performing Loans (the ratio of non-performing loans to total loans)

X_2= Asset Quality (the natural logarithm of the value of total assets)

X_3= Bank Liquidity (current ratio= current assets/ current liabilities)

X_4= Credit risk (market value equity / book value of total liabilities)

ε = Error term.

3.5.2 Test of Significance

R^2, the determining coefficient, or the multiple coefficient for determination of multiple regressions can be described as a measure of statistic to determine the closeness of the data fitted in a regression line. R^2 can also be about of the variation in cost efficiency (mean Y) in order to arrange the model and the dependent variable is changed, R^2also change. It is thus goodness of fit static given by ration of the explained sum of squares.

Analysis of Variance, popularly known as the ANOVA, is in most cases used where there exists two groups or more. The technique is used to compare the means of more than two samples. F test was used to measure multiple variables. F calculated was tested against F critical to assess significance.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the information analyzed from the data collected during the study on the relationship between cost efficiency and non-performing loans of commercial banks in Kenya. The sample comprised of all the 43 commercial banks operating in Kenya as of December the year 2015.

4.2 Descriptive statistics of the Population

The measures that define the general nature of the data under study are known as descriptive statistics. They define the nature of response from primary data and/or secondary data. The descriptive statistics for this study included: mean, standard deviation, minimum and maximum. Descriptive data analysis was performed on the non-performing loans, asset quality, bank liquidity and credit risk. The descriptive statistics results are tabulated below:

Table 4. 1: Descriptive Statistics

	Non-Performing Loans	Cost Efficiency	Bank Liquidity	Asset Quality	Credit Risk
Mean	.0829	.7537	0.9098	.1564	.07321
Median	.0873	.6736	.1491	.1372	.07326
Maximum	.2108	2.2718	.1972	.4078	.23401
Minimum	.04213	.2509	.0016	.0796	.0409
Std. Deviation	.05865	.3811	.0384	.0699	.2051
Skewness	1.413	2.271	1.785	1.761	.994
Kurtosis	.858	7.107	3.502	3.635	1.910

Source: Research Findings

This summarizes the population characteristics between cost efficiency and non-performing loans. The results of the tests on the differences in means of all variables were considered i.e. non-performing loans, asset quality, bank liquidity and credit risk. Their means, medians, minimum, maximum, skewness, standard deviation and kurtosis were thought about and considered. The findings of the research are indicated in table 4.1 above.

The results in table 4.1 showed the tests with differences in means of all variables, i.e. non-performing loans showed the average percentage mean of 0.0829 with a standard deviation of .05865, cost efficiency showed a mean of .7537 with a standard deviation of 0.381, asset quality showed a mean of .1564 with a standard deviation of .0699, bank liquidity showed a mean of 0.9098 with a standard deviation of .0384 while credit risk showed a mean of .07321 with a standard deviation of 0.2051. The positive values imply that all variables under the model are significant in deciding on the non-performing loans among commercial banks in Kenya.

4.3 Inferential Statistics

Multicollinearity test, normality test, Person's product moment correlation analysis and an evaluation of the multiple regression were carried out to determine the relationship between the study variables.

4.3.1 Multicollinearity Test

When there exists a high degree of co-relation between independent variables, it is described as having a multicollinearity problem. This can be rectified through the deletion of one of the associated variable. Heteroscedasticity on the other hands refers to the error terms that are pervious, which are now influencing other error terms and thereby violating the statistical assumptions that the error terms should bear a constant variance.

Table 4. 2: Summary of Co linearity Statistics

Model		**Co linearity Statistics**	
		Tolerance	**VIF**
	Cost efficiency	.937	1.068
	Non-performing loans	.873	1.145
	Asset Quality	.796	1.218
	Bank liquidity	.864	1.157
	Credit Risk	.910	1.099

The Variance credit risk factor (VCRF) was examined in all the studies and it ranged from 1 to 4 thereby passing the test for concern since Myers (1990), pointed out that a VCRF larger than 10 should be the call to worry. Error terms for differing remarks are uncorrelated, and that is the basic assumption

4.3.2 Normality test

To analyze normality of the variables, skewness and kurtosis was used. Kline (2011) stated that if the skewness and kurtosis statistics is (-3.0, 3.0) and (-10.0, 10.0) respectively, the univariate normality of variables can be inferred.

Table 4. 3: Tests of Normality

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	**df**	**Sig.**	**Statistic**	**df**	**Sig.**
Cost efficiency	2.203	42	.017	1.914	42	.005
Non-performing loans	3.045	42	.032	1.632	42	.032
Asset Quality	2.943	42	.041	1.231	42	.021
Bank liquidity	2.153	42	0.03	1.532	42	.019
Credit Risk	2.270	42	.004	1.839	42	.012

Kolmogorov-Smirnov and Shapiro-Wilk's analysis on the test on normality, uncovered an important aspect in that both test contributed to the null hypothesis being rejected since it was less than 0.05. Thus the data on non-performing loans, asset quality, bank liquidity and, credit risk were not normally distributed, and this is therefore an indication that data on the variables were normally distributed.

4.3.1 Correlation Analysis

The study used Karl Pearson's coefficient of correlation to quantify the weight of the relationship existing between the variables The Pearson product-moment correlation coefficient (or Pearson correlation coefficient)can best be described as a measure of the strength of a linear association between two variables and is usually denoted by *r*. The Pearson correlation coefficient, *r*, can usually take a range of values from going from +1 to -1. A value of 0 suggests that there is no association between the two variables. A value greater than 0 suggests a positive association, that is, as the value of one variable increases, so does the value of the other variable. A value less than 0 suggest a negative association. The findings are presented as follows;

Table 4. 4: Correlation Analysis

	Cost Efficiency	Non-Performing Loans	Asset Quality	Bank Liquidity	Credit risk
Cost Efficiency	1				
Non-performing loans	.601	1			
Asset Quality	.163	.124	1		
Bank Liquidity	.030	.361	.001	1	
Credit Risk	.146	.661	.321	.621	1

Results in table 4.2 above indicate that the correlation between non-performing loans and cost efficiency is positive and significant (R=0.601, p value=0.005). This implies that a hike in cost efficiency is linked with a decrease in NPLs and a decrease in cost efficiency is associated with an increase in non-performing loans. In addition, the study indicate that the correlation between non-performing loans and asset quality is positive and considerable (R=0.030, p value=.0091). This suggests that a hike in asset quality is linked with a hike in cost efficiency and a decrease in asset quality is linked with a decline in cost efficiency. Furthermore, the study also indicates that there exists a correlation between cost efficiency and credit risk and that it is significant (R=0.146, p value=.0012). This suggests that a hike in credit risk is linked with a decrease in cost efficiency and a reduction in credit risk is linked with an increase in cost efficiency. Finally, the study establishes that the correlation between cost efficiency and bank liquidity is positive and significant (R=0.234, p value=0. .0041). This suggests that an increase in bank liquidity is linked with an increase in cost efficiency and a decrease in bank liquidity is linked with a decline in cost efficiency.

General Linear model was further applied to the study, so as to identify the impact of cost efficiency on non-performing loans among commercial banks in Kenya. This was inclusive of regression analysis, the Model, Analysis of Variance and coefficient of determination. In addition, so as to test the relationship between cost efficiency and non-performing loans, the researcher carried out a multiple regression analysis. Coefficient of determination accounts for the extent to which changes in the dependent variable can be explained by the change in the independent variables or the percentage of variation in the dependent variable (non-performing loans) that is further clarified by all the four independent variables i.e. (non-performing loans, bank liquidity, asset quality, and credit risk).

4.3.4 Regression Analysis

The study carried out a cross-sectional multiple regression on the impact of cost efficiency on non-performing loans over a period of five years, among commercial banks in Kenya (2011-2015). Coefficient of determination, as earlier described, clarifies the range to which changes in the dependent variable can be illustrated by the change in the independent variables or the percentage of variation in the dependent variable (non-performing loans) that is illustrated by all the four independent variables (non-performing loans, bank liquidity, asset quality and credit risk).

Table 4. 5: Results of multiple regression between Cost efficiency and predictor variables

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
	0.822	0.807	0.791	0.116	1.985

Variations in the four independent variables that were analyzed account for 80.7% on the variation on cost efficiency (R^2=0.807). Autocorrelation as measured by Durbin Watson Statistic was 1.985 which is between 0 and 2. A positive autocorrelation between the variables can be seen clearly.

Table 4. 6: ANOVA of the Regression

Model		Sum of Squares	Df	Mean Square	F	Sig.
	Regression	2.534	5	1.267	8.635	.000[a]
	Residual	9.307	37	2.327		
	Total	11.841	42			

The significance value is 0.000 which is less than 0.05 thus the model is statistically important in predicting how (non-performing loans, bank liquidity, asset quality, and credit risk) affect cost efficiency. The F critical at 5% level of significance was 2.25. Since F calculated is greater than the F critical (value = 8.635), this shows that the overall model was significant.

Table 4. 7: Coefficient of Regression

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.103	0.2235		5.132	0.000
	Non-performing loans	-0.654	0.3425	0.1425	-4.117	.004
	Asset Quality	0.231	0.2178	0.1178	3.968	.002
	Bank liquidity	0.489	0.1243	0.1234	4.018	.001
	Credit Risk	0.578	0.1146	0.1342	3.647	.003

Multiple regression analysis was carried out so as to determine the relationship that exists between the cost efficiency and the five variables.

$Y= 1.103 - 0.654X_1 + 0.231X_2 + 0.489X_3 + 0.578X_4$

According to the regression equation determined, with all factors taken into account (non-performing loans, asset quality, bank liquidity and credit risk) constant at zero, cost efficiency will be 1.103. The data analyzed also shows that with all the other independent variables at zero, a unit hike in non-performing loans will lead to a -0.654 decrease in cost inefficiency. The findings analyzed also shows that with all the other independent variables at zero, a unit hike in the asset quality would lead to a 0.231 hike in the scores of cost efficiency and a unit hike in the scores of bank liquidity would lead to a 0.489 hike in the scores of Cost efficiency. Further, the analysis reveal that units hike in the scores of credit risk would lead to a 0.578 hike in the scores of Cost efficiency. All the variables were significant ($p<0.05$).

4.5 Interpretation

According to the regression analysis, non-performing loans negatively and significantly affected the cost efficiency among commercial banks in Kenya (B= -0.654, t= -4.117, p=.004). Ahmad and Bashir (2013) argue high inefficiency is a signal of bad performance of senior management in running day-to-day activities and loan portfolio which is consisted with Guy (2011) who submits that if a bank has bad administration with deplorable skills in credit scoring, monitoring borrowers and the appraising of pledged collaterals, it is likely to experience an accumulation of NPLs.

A unit hike in asset quality will cause a 0.231 hike the cost efficiency. Asset quality positively and significantly affected the cost efficiency among commercial banks in Kenya (B= 0.231, t= 3.968, p=.002). The health and profitability of bank borrowers, the trends in non-performing loans and exposure to specific risks are dependent on the quality of assets held by a bank. (Athanasoglou et al, 2008).

A unit increase in bank liquidity will lead to a 0.489 increase in cost efficiency. Bank liquidity positively and significantly affect the cost efficiency among commercial banks in Kenya (B= 0.489, t= 4.018, p=.001). According to Aduda and King'oo (2012) statutory minimum requirement for liquidity ratio for banks in Kenya is 20%. Interbank Ratio represents cash loaned to other banks (due from other banks) divided by money borrowed from other banks (due to other banks). If it happens that this ratio is greater than 100% then it suggests that the bank is a net placer rather than a debtor of funds in the market place, and thus has more liquid. A unit increase in credit risk will lead to a 0.578 decline in cost efficiency. Credit risk negatively and significantly affects the cost efficiency among commercial banks in Kenya (B= 0.578, t= 3.647, p=.003). Raheman and Nasr (2007) points out that credit risk is important internal factor that affects bank efficiency. Since risk management is vital aspect for the operational and survival of banks, any changes in credit risk echo's on the health of the banks' loan portfolio. That is, poor asset quality ultimately increases the chances of bank failure (Raheman & Nasr, 2007).

The study reveals that non-performing loans contributes the most to cost inefficiency followed by credit risk. At 5% level of significance and 95% level of confidence, non-performing loans, asset quality, bank liquidity and, credit risk were all significant in cost efficiency.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter provides a summary, conclusion and recommendations of the main findings on the effect of cost efficiency on non-performing loans among commercial banks in Kenya.

5.2 Summary of Findings

The above regression model concluded that cost efficiency is influenced by non-performing loans, quality of assets, and liquidity in banks and risks in credit with an annual inception of 1.103 for all years. Since this study showed 0.654 co-efficiency in non-performing loans, it is an indication of a significant influence of cost efficiency among Kenyan commercial bank, negatively. Berger, Hunter and Timme (1993) made similar remarks where he noted that bank efficiency could leads to profit improvement, greater intermediate funds, prices that are better and services that are of quality, soundness and safety improvement. This was dependent on the application of efficiency savings to improve risks absorbed by capital buffers. According to Bawumia, Belnye and Ofori (2005), the two bank specific factors that significantly contribute to a vaster cost efficiency include; high profit margins that banks should be determined to achieve and high operating costs as a result of costs in labor.

For Campion etal (2010) performing loan improvement could be the core driver of rates that are low. The five sources that enhance this are profit reinvestment, competition, practical learning, donor pressure and microfinance institution investment that allow social responsibility and interest rates caps absence. Bank interest margins variation reflected through overhead and cost of operation variation as the depositors and lenders receive the operating costs from banks (Sarpong, Winful and Ntiamoah 2011).

There was a positive and significant influence of cost efficiency by asset quality and bank liquidity in commercial banks in Kenya. A study by Boldbaatar (2006) indicated that there is better managerial efficiency especially in bigger banks as they operate with higher liquidity based on a research on bank liquidity impact on cost efficiency in banks. Mimi (2013) results showed a negative impact in cost efficiency due to credit risk, although insignificant. Overall, cost efficiency and credit risk linear association was negative according to correlation analysis. Therefore, based on these studies, credit risk, cost efficiency, return on assets, operating costs and liquidity all influenced cost efficiency. In addition, there was a positive and significant influence of cost efficiency by discount rates in the Kenya banks. Tennant and Folawewo (2007) found out that cost efficiency size will be

influenced by credit risk and hence must always be considered whether or not it is being used as a means of controlling money supply. Credit risk level must therefore be a consideration by government and central banks due to their effects on economic variable through cost efficiency.

5.3 Conclusions

From the study of the independent variables which entail the nonperforming loans to determine their effect on cost efficiency, there was an 80.7% cost efficiency in the Kenyan banks based on adjusted R^2 (0.807) representation. Berger, Hunter and Timme (1993) made similar remarks where he noted that bank efficiency could leads to profit improvement, greater intermediate funds, prices that are better and services that are of quality, soundness and safety improvement. This was dependent on the application of efficiency savings to improve risks absorbed by capital buffers. Njuguna and Ngugi (2000) argued that the necessity for intermediation increases with cost efficiency increment. Another study also showed a positive and significant association between bank liquidity and cost efficiency which was in line with Boldbaatar (2006) study that showed an increase in managerial efficiency in banks especially the bigger ones as they operated on a higher liquidity. A negative and significant effe3ct of credit risk on cost efficiency result in banks was realized and is in line with Tennant and Folawewo (2007) where credit risk is a must consideration for government and banks even when it was not in use as a money supply control strategy as it is a determinant of cost efficiency size.

5.4 Recommendations

Based on the foregoing Analysis, discussion and observations made in the study it would be appropriate to make the following recommendations;

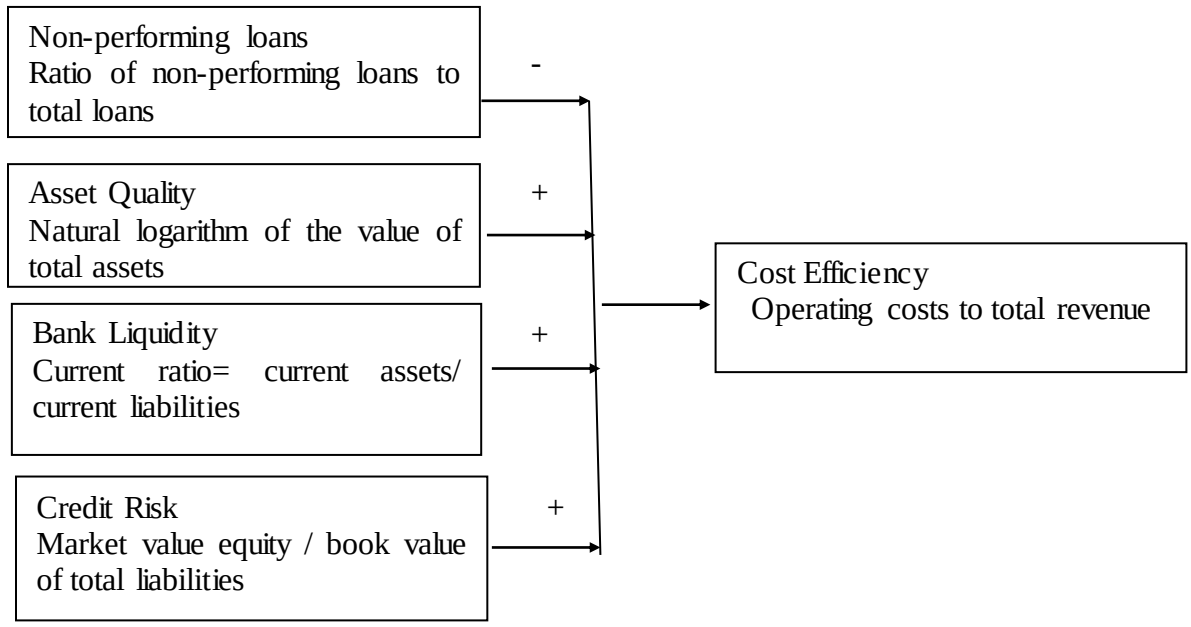
Central bank of Kenya, being the regulator of banking sector should consider reporting on ratios rather than mere changes in trends of specific items especially non-performing loans and profitability. The reporting of mere increases in nonperforming loans by commercial could be misleading as NPLs ratio, return on assets and NPLs coverage ratio can enhance understandability of relationships between changes in profitability and non-performing loans gross volumes. Central bank of Kenya and shareholders of banks that are commercial should be made aware of the possible use of provisions provided for losses on non-performing loans by bank managers for the smoothening of profits & develop financial reporting models that can help prevent occurrence of the menace. The shareholders

specifically should be ready to meet agency costs to reduce manager's information asymmetry by hiring competent internal and external auditors.

The Central Bank of Kenya being the main regulator of all banks that are commercial should control the credit risk by setting the maximum limits of credit to be imposed by commercial banks on loans and earned on deposits. The firms should consider cost efficiency analysis as an important factor in their profitability and risk analysis and management. Moral hazard and adverse selection risks, at the process of dispatching loans should be militated by the management of the commercial banks through carrying out a number of procedures including effective internal control systems, good credit appraisal procedures, diversification along with an attempt to better the asset quality in the balance sheets. Innovation techniques, specifically those that assist in cost cutting which also includes leveraging technology and reducing occurrences of non-performing loans should be employed by these commercial banks in Kenya in order to maintain profit.

The central banks should apply stringent regulations on bank liquidity so as to regulate their cost efficiency. Policies that promote, advance and support competition in the financial sector, coupled with measures which foster the growth and advancement of the image of small and medium sized banks in a bid to enter the market, should be utilized to further increase competition in the banking sector.

5.5 Revised Conceptual Framework



5.6 Limitation of the Study

A major challenge faced by the researcher when carrying out this study was the issue of confidentiality. Central bank and other commercial banks considered the information sensitive and confidential, and hence the researcher had to convince them as such that the findings acquired was purely for the objective of academics only and that it would not be used for any other reasons

A second limitation of this study is that the findings are applicable to Kenyan banks and within the period of study. It is not established whether the results are applicable outside Kenya or not. Further, cost efficiency is a long-term issue; the study has only given findings applicable at the time of study. As to whether the findings are applicable after the study was conducted the study has not expressly given that indication.

The constant changes of cost efficiency among commercial banks in Kenya from one period to the next due to prevailing economic bearings of the country and demands from the central bank proved to be a challenge, and therefore the findings may not reflect the true impacts of non-performing loans on cost efficiency on commercial banks for the period considered.

5.7 Suggestions for Further Research

The study indicated furthermore that the analysis should be conducted in similar study for longer period of 10 years. A similar study should also be conducted on effects of problem loans on cost efficiency incorporating other variables such as the prevailing macroeconomic in a country rather than the current study which took only six variables into account.

A study incorporating more than one country should be carried out, since the findings of this particular study focused solely on commercial banks in Kenya. The study incorporating other countries will give better findings, more information, and hence more room for generalization, leading to a more generalized result.

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APPENDICES

Appendix I: Data Collection Sheet

	2011	2012	2013	2014	2015
Operating costs					
Total revenue					
Non-performing loans					
Total loans					
Total assets					
Current assets					
Current liabilities					
Market value equity					
Book value of total liabilities					

APPENDIX II: SECONDARY DATA

TOTAL ASSETS (kshs '000')

NAME OF THE BANK	2011	2012	2013	2014	2015
Kenya Commercial (KCB)	164,875,372	172,690,915	282,494,456	304,112,456	323,564,786
Equity Bank Limited	168,223,215	223,024,556	176,911,564	215,829,345	238,345,678
Co-op Bank	123,909,119	142,880,029	167,772,345	199,663,435	229,456,780
Barclays Bank	100,811,750	133,889,997	167,305,897	195,493,564	221,786,786
Standard Chartered Bank Ltd	110,531,373	153,983,533	164,182,123	185,102 ,345	207,345,412
CFC Stanbic Bank	47,146,767	62,069,592	140,087,545	133,378,346	171,785,785
Commercial Bank of Africa	51,404,408	63,591,642	83,283,234	101,772,987	125,345,345
Diamond Trust Bank Kenya	44,655,313	58,605,823	77,453,345	100,456,678	114,345,234
I & M Bank	18,280,761	60,026,694	76,903,674	94,512,234	113,908
Citibank, N.A.	5,130,103	54,776,432	74,646 ,897	91,520,312	110,234
NIC Bank Ltd	97,337,054	62,552,113	73,581,675	69,580,654	92,493,033
National Bank(NBK)	23,697,056	107,138,602	68,665	67,155	76,568,930
Bank of Africa	7,628,290	29,325,841	38,734,872	49,105,346	71,242,659
Bank of Baroda (K) Ltd	3,664,948	6,215,384	36,701,671	48,958,346	52,683,299
Chase Bank Limited	6,898,919	32,444,424	36,513,340	46,138,907	52,021,524
Prime Bank Limited	15,358,108	4,530,094	35,185,876	43,463,895	49,460,889
Housing finance	6,777,889	10,478,682	31,972,132	40,686456	43,500,989
Ecobank Kenya Ltd	3,364,459	19,399,089	27,210,780	34,590,563	43,006,228
Family Bank	4,491,372	8,031,214	26,002,674	31,771,568	36,907,137
Imperial Bank Limited	44,009,222	4,761,853	25,618,533	30,985,875	30,721,440
Bank of India	21,939,617	32,331,505	23,352,678	24,877,908	25,638,049
Consolidated Bank of Kenya	18,331,250	14,112,365	15,318,871	19,071,907	19,639,370
Fina Bank Limited	5,498,595	8,208,537	14,630,564	18,001,780	16,778,631
Equitorial Commercial Bank	490,890	1,723,233	12,927,654	17,150,340	16,053,971
Gulf African Bank	6,914,485	10,233,964	12,915,345	14,109,657	15,580,630
African Banking Corporation	16,919,962	26,699,124	12,507,678	13,562,765	15,562,475
Giro Commercial Bank	13,305,770	20,188,379	11,846,321	13,417,768	13,644,242
Development Bank of Kenya	8,109,411	10,649,758	11,523,978	12,280,765	13,623,296
Fidelity Commercial Bank	12,969,712	21,858,603	10,789,907	11,772,876	13,199,240

K-Rep Bank Ltd	3,100,351	4,419,806	9,319,978	11,745 ,825	12,834,687
Guardian Bank	15,394,571	19,671,456	8,754,978	10,323,563	12,778,509
First community Bank	51,371,890	10,398,805	8,740,980	9,959,564	11,305,398
Habib AG Zurich	4,461,421	10,348,739	8,722,987	9,702,875	11,009,480
Victoria Comm. Bank Ltd	8,971,669	4,558,349	7,645,986	9,548,342	9,657,868
Transnational Bank Limited	3,052,314	26,892,185	7,287,986	8,801,786	8,078,122
Habib Bank Limited	13,949,400	8,127,135	5,861,778	7,255,987	8,028,877
Credit Bank Ltd	7,339,320	4,018,428	5,394,456	7,014,342	7,308,854
Oriental Comm. Bank	3,141,381	7,670,050	5,030,345	6,407,234	7,010,323
Paramount-Universal Bank	7,136,327	5,425,541	4,727,653	6,220,876	7,006,527
Middle East Bank of Kenya	4,658,793	1,874,268	4,639,890	5,870,8765	5,765,799
UBA BANK	1,596,398	9,594,061	3,206,645	3,480,453	3,709,630
Dubai Bank Limited	7,748,940	6,380,098	2,316,389	2,924,954	2,926,860
Jamii Bora Bank	4,451,626	3,876,876	2,070,879	2,584,987	2,660,000
K-Rep Bank Ltd	164,875,372	172,690,915	282,494,456	304,112,456	323,564,786
Guardian Bank	168,223,215	223,024,556	176,911,564	215,829,345	238,345,678
First community Bank	123,909,119	142,880,029	167,772,345	199,663,435	229,456,780
Habib AG Zurich	100,811,750	133,889,997	167,305,908	195,493,564	221,786,786
Victoria Comm. Bank Ltd	110,531,373	153,983,533	164,182,123	185,102 ,345	207,345,412
Transnational Bank Limited	47,146,767	62,069,592	140,087,545	133,378,346	171,785,785
Habib Bank Limited	51,404,408	63,591,642	83,283,234	101,772 ,987	125,345,345
Credit Bank Ltd	44,655,313	58,605,823	77,453,345	100,456,678	114,345,234
Oriental Comm. Bank	18,280,761	60,026,694	76,903,674	94,512,234	113,908
Paramount-Universal Bank	5,130,103	54,776,432	74,646 ,897	91,520,312	110,234
Middle East Bank of Kenya	97,337,054	62,552,113	73,581,675	69,580,654	92,493,033
UBA BANK	23,697,056	107,138,602	68,665,654	67,155,987	76,568,930
Dubai Bank Limited	57,628,290	29,325,841	38,734,872	49,105,346	71,242,659
Jamii Bora Bank	3,664,948	6,215,384	36,701,671	48,958,346	52,683,299
K-Rep Bank Ltd	6,898,919	32,444,424	36,513,340	46,138,907	52,021,524
Guardian Bank	15,358,108	4,530,094	35,185,876	43,463,895	49,460,889
First community Bank	6,777,889	10,478,682	31,972,132	40,686456	43,500,989
Habib AG Zurich	3,364,459	19,399,089	27,210,780	34,590,563	43,006,228
Victoria Comm. Bank Ltd	4,491,372	8,031,214	26,002,674	31,771,568	36,907,137

Transnational Bank Limited	44,009,222	4,761,853	25,618,533	30,985,875	30,721,440
Habib Bank Limited	21,939,617	32,331,505	23,352,678	24,877,908	25,638,049
Credit Bank Ltd	18,331,250	14,112,365	15,318,871	19,071,907	19,639,370
Oriental Comm. Bank	5,498,595	8,208,537	14,630,564	18,001,780	16,778,631
Paramount-Universal Bank	490,890	1,723,233	12,927,654	17,150340	16,053,971
Middle East Bank of Kenya	6,914,485	10,233,964	12,915,345	14,109,657	15,580,630
UBA BANK	16,919,962	26,699,124	12,507,678	13,562,765	15,562,475
Dubai Bank Limited	13,305,770	20,188,379	11,846,321	13,417,768	13,644,242
Jamii Bora Bank	8,109,411	10,649,758	11,523,978	12,280,765	13,623,296
K-Rep Bank Ltd	12,969,712	21,858,603	10,789,907	11,772,876	13,199,240
Guardian Bank	3,100,351	4,419,806	9,319,978	11,745 ,825	12,834,687
First community Bank	15,394,571	19,671,456	8,754,978	10,323,563	12,778,509
Habib AG Zurich	51,371,890	10,398,805	8,740,980	9,959,564	11,305,398
Victoria Comm. Bank Ltd	4,461,421	10,348,739	8,722,987	9,702,875	11,009,480
Transnational Bank Limited	8,971,669	4,558,349	7,645,986	9,548,342	9,657,868
Habib Bank Limited	3,052,314	26,892,185	7,287,986	8,801,786	8,078,122
Credit Bank Ltd	13,949,400	8,127,135	5,861,778	7,255,987	8,028,877
Oriental Comm. Bank	7,339,320	4,018,428	5,394,456	7,014,342	7,308,854
Paramount-Universal Bank	3,141,381	7,670,050	5,030,345	6,407,234	7,010,323
Middle East Bank of Kenya	7,136,327	5,425,541	4,727,653	6,220,876	7,006,527
UBA BANK	4,658,793	1,874,268	4,639,890	5,870,8765	5,765,799
Dubai Bank Limited	1,596,398	9,594,061	3,206,645	3,480,453	3,709,630
Jamii Bora Bank	7,748,940	6,380,098	2,316,389	2,924,954	2,926,860

TOTAL LOANS (kshs '000')

NAME OF THE BANK	2011	2012	2013	2014	2015
Kenya Commercial(KCB)	93,542,609	87,146,982	179,844,784	187,023,675	233,701,908
Equity Bank Limited	98,749,618	137,344,567	106,486,655	122,410,987	169,088,981
Co-op Bank	56,694,876	60,336,829	109,409,987	119,088,453	165,766,453
Barclays Bank	63,378,232	72,902,021	96,098,435	112,695,214	159,373,908
Standard Chartered Bank Ltd	62,274,421	86,618,311	99,072,768	104,204,644	150,882,907
CFC Stanbic Bank	30,634,025	21,322,597	64,257,763	66,150,786	82,828,765
Commercial Bank of Africa	13,156,455	32,608,876	52,025,907	66,381,764	83,059,786
Diamond Trust Bank Kenya	31,133,485	37,850,277	39,610,987	2,504,987	89,182,908
I & M Bank	14,495,208	20,844,636	50,944,231	59,930,876	76,608,876
Citibank, N.A.	436,729	38,340,879	46,779,234	55,375,543	92,053,876
NIC Bank Ltd	44,977,967	35,658,053	28,451,456	23,331,234	40,009,746
National Bank(NBK)	10,615,380	58,984,960	28,068,456	28,347,876	35,025,345
Bank of Africa	30,087,373	19,503,400	18,139,765	29,284,231	45,962,765
Bank of Baroda (K) Ltd	1,880,943	3,484,944	21,640,653	29,882,452	36,560,132
Chase Bank Limited	3,868,472	14,836,692	19,144,546	21,923,890	38,601,786
Prime Bank Limited	9,676,110	1,926,918	18,394,342	21,151,651	37,829,890
Housing finance	4,121,977	6,047,276	25,223,897	30,294,567	46,972,453

Ecobank Kenya Ltd	1,688,664	11,262,362	14,904,451	19,038,897	25,716,650
Family Bank	1,953,296	4,732,471	11,381,442	13,968,875	10,646,774
Imperial Bank Limited	24,591,500	1,991,178	16,332,678	17,869,734	24,547,674
Bank of India	9,084,430	13,434,459	7,229,764	10,015,435	26,693,664
Consolidated Bank of Kenya	9,291,539	6,718,235	7,074,874	9,790,875	16,468,907
Fina Bank Limited	3,293,085	4,472,541	9,197,875	10,077,009	16,755,000
Equitorial Commercial Bank	183,868	327,331	277,645	743,983	421,987
Gulf African Bank	3,682,333	4,933,235	6,635,987	7,538,897	14,216,543
African Banking Corporation	9,120,438	14,122,485	7,440,890	9,447,567	6,125,125
Giro Commercial Bank	7,675,806	10,208,137	5,902,765	6,932,342	13,610,678
Development Bank of Kenya	4,768,579	5,392,436	6,360,987	5,519,876	62,197,875
Fidelity Commercial Bank	6,745,468	11,131,009	6,546,654	6,639,567	23,317234
K-Rep Bank Ltd	1,355,655	1,735,099	5,865,765	7,153,234	11,678,831
Guardian Bank	5,439,539	5,923,970	4,110,761	5,291,875	8,969,000
First community Bank	21,401,747	4,851,414	4,258,564	5,453,789	9,131,765
Habib AG Zurich	2,749,529	5,288,180	2,667,564	2,328,456	4,006 ,876
Victoria Comm. Bank Ltd	3,992,127	2,450,600	6,754,789	6,955,324	14,633,908
Transnational Bank	1,518,545	9,693,276	6,382,987	4,360,432	11,038,987

Limited					
Habib Bank Limited	6,444,336	2,249,351	2,067,987	2,740,345	4,418,876
Credit Bank Ltd	2,175,272	2,213,290	2,177,987	3,341,345	5,223,019
Oriental Comm. Bank	1,619,369	5,252,438	2,883,543	3,112,543	9,790,568
Paramount-Universal Bank	4,816,960	1,595,752	2,851,657	3,499,123	5,177,876
Middle East Bank of Kenya	1,253,920	1,086,032	2,564,456	3,145,342	4,823,678
UBA BANK	1,144,162	6,270,684	8,564,302	11,309,543	17,564,987
Dubai Bank Limited	4,950,218	2,983,550	3,543,506	9,096,440	17,118,567
Jamii Bora Bank	2,290,296	3,456,789	1,517,674	1,783,678	4,461,564

MARKET VALUE EQUITY (kshs '000')

NAME OF THE BANK EQUITY CAPITAL	2011	2012	2013	2014	2015
African Banking Corporation	774,456	958,876	1 ,118,765	1,876,280	1,530,899
Bank of Africa	845,786	1,678,223	1 ,715,909	2,567,969	5,101,905
Bank of Baroda (K) Ltd	1,456,912	2,456,247	3 ,095,876	3,867,685	4,345,554
Bank of India	676,534	730,765	906,234	1,876204	722,234
Barclays Bank	13,645,933	16,342,103	29,456,202	20,763,972	28,778,967
CFC Stanbic Bank	7,534,118	8,342,143	10,345,035	10,563,150	18,345,101
Chase Bank Limited	1,345,690	2,345,069	2 ,756,545	3,678,378	4,456,063
Citibank, N.A.	456,208	468,908	930,456	467,456	674,450
Commercial Bank of Africa	345,190	567,077	1882,879	345,112	678,346
Consolidated Bank of Kenya	424,987	490,765	8 01,564	1,017,876	1,185,345
Co-op Bank	240,463	274,210	391,465	269,223	239,583
Credit Bank Ltd	464,675	465,456	896234	688,231	711,780
Development Bank of Kenya	763,645	935,342	1 ,103,456	1,579,897	2,456,036
Diamond Trust Bank Kenya	5,345,334	6,456,263	8 ,057,890	10,453,366	14,786,878
Dubai Bank Limited	282,897	231,678	596,876	373,453	264,342
Ecobank Kenya Ltd	968,890	1,345,145	1 ,631,908	1,702,986	2,345,112
Equitorial Commercial Bank	1,876,229	1,789,363	1 ,489,098	1,345,562	1,879,634
Equity Bank Limited	19,660,897	23,337,654	28,308,456	35,890,047	42,786,672
Family Bank	1,273,876	1,150,876	1 ,224,654	1,342,319	1,890,561
Fidelity Commercial Bank	620,456	747,897	896,345	1,234,062	1,892,348
Fina Bank Limited	1,890,129	1,543,107	1 ,158,907	1,452,331	1,098,527
First community Bank	492,546	527,342	785,342	1,026,567	1,357,136
Giro Commercial Bank	835,897	873,654	948,908	1,876,065	1,905,219
Guardian Bank	666,643	728,453	948,765	958,908	1,023,179
Gulf African Bank	1,897,235	1,876,325	1 ,547,342	1,875,743	1,987,834
Habib AG Zurich	877,987	904,764	1 ,027,907	1,234,100	1,678,124
Habib Bank Limited	501,765	512,789	2 ,103,345	752,908	801,765
Housing finance	846,345	927,897	1 ,477,789	1,345,435	1,908,574
I & M Bank	5,789,529	6,435,434	7 ,896,876	9,875,900	15,789,065
Imperial Bank Limited	608,987	857,907	1 ,340,985	1,452,579	1,745,775

Kenya Commercial (KCB)	20,645,058	22,543,398	27,876,876	45,789,163	52,067,926
K-Rep Bank Ltd	944,904	982,654	1 ,138,234	1,897,290	1,345,385
Middle East Bank of Kenya	355,345	324,567	459,457	499,678	443,098
National Bank(NBK)	3,456,075	3,890,065	3 ,898,543	3,786,742	4,789,175
NIC Bank Ltd	1,456910	2,789,565	4 ,744,342	4,789,936	5,097,758
Oriental Comm. Bank	428,897	418,456	2 ,138,908	625,765	622,345
Paramount-Universal Bank	391,546	371,653	622,342	562,876	532,674
Prime Bank Limited	171,435	1,198,987	1 ,336,784	1,536,765	2,890,504
Standard Chartered Bank Ltd	11,390,786	13,807,098	20,210,987	20,346,571	30,893,603
Transnational Bank Limited	537,987	559,543	948,872	815,564	890,876
UBA BANK	319,786	278,432	627,543	436,897	353,071
Victoria Comm. Bank Ltd	411,876	463,876	596,654	712,345	917,568

CURRENT ASSET (ksh '000')

NAME OF THE BANK	2011	2012	2013	2014	2015
African Banking Corporation	482,981	893,924	1,145,324	1,624,567	1,697,098
Bank of Africa	3,723,221	7,936,410	10,876,345	11,234,765	17,908,000
Bank of Baroda (K) Ltd	13,356,000	16,462,000	19,675,764	22,654,238	25,908,877
Barclays Bank Of Kenya Ltd	12,212,343	16,486,876	21,564,674	25,897,435	30,820,342
Boc Kenya Ltd	890,082	1,087,971	1,564,356	1,987,546	2,432,765
Bank of India	679,714	729,828	867,456	957,453	890,645
CFC Stanbic Bank	3,487,990	3,397,179	3,367,908	2,987,978	2,786,890
Chase Bank Limited	3,801,961	358,489	1,897,456	567,345	897,098
Citibank, N.A.	94,884,596	78,483,828	67,908,543	57,024,786	89,097,908
Commercial Bank of Africa	12,308,768	10,057,428	10,043,815	9,087,986	11,963,916
Co-Operative Bank Of Kenya Limited	5,714,000	5,876,000	5,900,900	6,435,875	8,975,234
Consolidated Bank of Kenya	1,569,315	1,589,244	1,675,897	1,856,367	2,890,564
Diamond Trust Bank (Kenya) Ltd	1,333,157	1,869,483	2,234,678	3,897,674	3,987,345
Dubai Bank Limited	2,407,504	3,031,439	3,678,980	5,879,764	6,980,987
Ecobank Kenya Ltd	3,172,070	2,570,423	2,276,890	1,456,879	2,897,456
Equitorial Commercial Bank	733,708	876,043	843,132	675,890	976,987
Equity Bank Limited	137,663	63,985	61,876	56,243	45,198
Family Bank	246,178	384,425	456,768	521,400	543,098
Dubai Bank Limited	1,174, 645	1,237,473	1,087,453	975,908	897,897
Ecobank Kenya Ltd	575,942	782,196	897,876	1,087,234	1,345,897
Equitorial Commercial Bank	40,145,862	24,540,381	21,673,890	17,928,098	12,890,342
Equity Bank Limited	23,622,000	21,833,000	21,897,653	24,789,765	26,987,768
Kenya Commercial Bank Ltd	69,379,021	71,919,067	73,892,145	76,890,345	81,893,734
Giro Commercial Bank	19,539,034	22,288,066	24,564,789	36,897,784	46,892,435
Guardian Bank	6,511,659	7,171,360	8,345,753	12,785,342	14,789,674
Gulf African Bank	5,855,100	7,248,200	10,345,762	12,376,234	19,345,897
Habib AG Zurich	13,891,108	18,320,378	23,543,289	27,567,349	45,897,098
Habib Bank Limited	233,180	283,639	312,908	456,099	675,893
Housing finance	894,196	876,556	873,987	786,976	654,342

I & M Bank	21,701,296	21,194,195	20,456,234	18,907,456	22,784,890
Imperial Bank Limited	1,243,233	1,109,871	1,000,050	1,300,768	1,500,907
Kenya Commercial (KCB)	7,772,923	7,735,575	7,896,234	7,567,345	9,876,345
K-Rep Bank Ltd	12,005,054	13,575,454	14,897,934	17,908,675	25,897,356
Middle East Bank of Kenya	1,287,683	1,248,272	1,034,563	867,456	786,098
National Bank(NBK)	25,338,951	23,348,459	21,345,712	19,456,234	14,897,456
NIC Bank Ltd	2,414,929	2,070,277	2,00,800	2,236,897	879,785
Oriental Comm. Bank	9,460,388	7,509,767	4,876,234	3,123,456	2,456,908
Paramount-Universal Bank	1,397,650	1,594,146	2,987,845	3,289,354	3,876,098
Prime Bank Limited	2,758,785	3,654,342	3,243,000	4,897,000	5,600,000
Standard Chartered Bank Ltd	4,086,617	4,644,891	4,976,453	6,654,234	6,432,678
Transnational Bank Limited	2,326,779	2,447,223	2,564,897	2,789,096	3,321,900
UBA BANK	1,319,786	1,278,432	1,627,543	2,436,897	2,353,071
Victoria Comm. Bank Ltd	1,411,876	1,463,876	1,596,654	2,012,345	2,017,568

CURRENT LIABILITIES (ksh '000')

NAME OF THE BANK	2011	2012	2013	2014	2015
African Banking Corporation	1,604,987	4,530,567	4,589,432	6,876,789	9,789,987
Bank of Africa	1,351,157	1,146,023	1,124,897	1,168,987	1,20,987
Bank of Baroda (K) Ltd	274,093	456,895	567,876	764,897	1,897,654
Barclays Bank Of Kenya Ltd	5,487,786	10,537,898	13,765,456	16,345,324	20,789,567
Boc Kenya Ltd	1,425,236	1,257,984	1,200,789	1,154,890	1,676,987
Bank of India	1,585,628	1,583,435	1,587,000	1,876,908	1,956,876
CFC Stanbic Bank	687,396	1,017,203	1,567,345	1,987,654	3,879,098
Chase Bank Limited	536,670	633,783	700,876	1,897,645	2,654,789
Citibank, N.A.	9,002,281	6,541,365	4,678,345	5,123,345	3,784,099
Commercial Bank of Africa	7,673,297	8,174,466	6,134,564	8,656,908	9,345,908
Co-Operative Bank Of Kenya Limited	14,785,654	17,764,897	18,897,675	21,789,342	11,897,897
Consolidated Bank of Kenya	208,000	1,125,000	1,789,876	2,789,674	3,789,985
Diamond Trust Bank (Kenya) Ltd	3,654,897	5,876,987	7,987,654	8,987,654	9,098,765
Dubai Bank Limited	1,514,000	1,149,000	1,234,000	1,074,000	2,876,000
Ecobank Kenya Ltd	73,867	456,716	675,897	1,345,890	1,900,789
Equitorial Commercial Bank	409,479	161,491	127,987	100,345	45,987
Equity Bank Limited	22,214,000	23,756,000	26,876,000	29,078,000	32,875,000
Family Bank	6,298,248	8,397,090	8,567,453	9,678,987	11,987,654
Dubai Bank Limited	2,530,900	3,216,700	5,786,453	7,986,435	10,785,766
Ecobank Kenya Ltd	3,797,599	3,389,273	3,876,876	4,908,223	3,876,987
Equitorial Commercial Bank	1,194,519	1,118,703	1,003,786	678,098	1,876,908
Equity Bank Limited	21,615,296	22,045,961	24,876,987	24,986,908	26,980,765
Kenya Commercial Bank Ltd	2,462,533	2,203,769	2,100,905	3,678,345	4,908,765
Giro Commercial Bank	4,420,053	6,502,840	8,796,456	10,234,678	12,897,453
Guardian Bank	5,097,000	7,011,000	7,674,674	8,564,342	11,342,987
Gulf African Bank	1,071,998	1,034,709	897,098	1,876,906	2,564,789
Habib AG Zurich	2,074,312	2,532,226	2,789,556	3,001,785	4,879,876
Habib Bank Limited	2,100,179	2,275,422	2,400,768	2,876,000	4,786,098
I & M Bank	11,256,593	15,000,957	18,907,765	23,768,908	30,876,865

Imperial Bank Limited	7,982,764	7,933,163	9,987,453	10,564,234	9,876,654
Kenya Commercial (KCB)	23,742,199	24,526,459	25,436,879	27,234,789	31,786,908
K-Rep Bank Ltd	7,725,846	5,846,150	4,846,346	3,876,987	1,908,984
Middle East Bank of Kenya	1,816,803	1,989,541	2,097,234	2,874,897	3,987,908
National Bank(NBK)	5,340,629	6,052,680	7,00,926	8,098,674	12,987,098
NIC Bank Ltd	1,698,785	1,166,985	2,987,765	5,564,908	6,453,324
Oriental Comm. Bank	5,509,186	2,483,782	6,897,564	5,987,654	5,896,534
Paramount-Universal Bank	658,427	695,764	734,876	845,683	1,987,564
Prime Bank Limited	2,961,691	5,720,655	7,784,655	11,234,456	14,213,434
Standard Chartered Bank Ltd	1,618,796	1,967,953	2,007,654	2,456,783	2,978,076
Transnational Bank Limited	1,658,142	1,549,671	1,523,789	1,356,897	1,465,897
UBA BANK	3,117,726	3,615,900	4,675,341	5,890,000	6,876,435

OPERATING COST (ksh '000')

NAME OF THE BANK	2011	2012	2013	2014	2015
African Banking Corporation	15657	27025	13664	32180	52404
Bank of Africa	687418	1138100	1269759	859086	1252403
Bank of Baroda (K) Ltd	593140	1057590	426221	423547	889832
Barclays Bank Of Kenya Ltd	547847	235237	1091680	490703	800853
Boc Kenya Ltd	15336	27060	167203	20586	29152
Bank of India	517175	13404	55113	30348	176898
CFC Stanbic Bank	255307	169888	339750	98486	255155
Chase Bank Limited	36658	13762	51802	34557	43300
Citibank, N.A.	923574	1003728	3019762	6332947	4421779
Commercial Bank of Africa	111555	55210	15631	58321	45737
Co-Operative Bank Of Kenya Limited	336185	179909	191360	115552	239475
Consolidated Bank of Kenya	8541	16966	3504	32706	171037
Diamond Trust Bank (Kenya) Ltd	277009	396835	11415	76059	543324
Dubai Bank Limited	6264	68422	84200	40226	61796
Ecobank Kenya Ltd	1151353	4973037	6948048	2678696	5446591
Equitorial Commercial Bank	49800	277827	487512	360898	414917
Equity Bank Limited	1278510	1159496	1177976	1589938	1166287
Family Bank	1192604	155	1532657	134068	701345
Dubai Bank Limited	3891378	5422189	6416238	8275311	8612354
Ecobank Kenya Ltd	984349	2653271	157246	344674	1188336
Equitorial Commercial Bank	158305	139868	135016	256030	194778
Equity Bank Limited	14328	64072	42352	49274	42655
Kenya Commercial Bank Ltd	7439834	5886120	8328458	218511	7016417
Giro Commercial Bank	3943	17569	14563	20391	25872
Guardian Bank	226282	42913	32930	50325	92304
Gulf African Bank	141384	101954	58012	30173	82751
Habib AG Zurich	49438	56248	145632	76572	90719
Habib Bank Limited	336238	26192	22170	27324	84736
I & M Bank	22066	426181	98029	225188	28509

Imperial Bank Limited	119493	306562	109156	171800	67327
Kenya Commercial (KCB)	112377	362197	122661	200411	67283
K-Rep Bank Ltd	105262	417831	136166	229022	67238
Middle East Bank of Kenya	98147	473465	149671	257633	67194
National Bank(NBK)	91031	529099	163176	286244	67150
NIC Bank Ltd	83916	584733	176681	314855	67105
Oriental Comm. Bank	76800	640368	190186	343466	67061
Paramount-Universal Bank	69685	696002	203691	372077	67017
Prime Bank Limited	62569	751636	217196	400688	66973
Standard Chartered Bank Ltd	473208	848751	567744	334801	455879
Transnational Bank Limited	467663	851235	551237	317478	432326
UBA BANK	462118	853718	534729	300155	408774

NON-PERFOMING LOANS (kshs '000')

NAME OF THE BANK	2011	2012	2013	2014	2015
African Banking Corporation	372	484	530	629	885
Bank of Africa Ltd	512	532	667	812	2412
Bank of Baroda Ltd	158	232	325	357	1065
Bank of India Ltd	1032	1060	1194	1644	716
Barclays Bank of Kenya Ltd	671	820	1096	1892	4554
CfC Stanbic Bank Ltd	130	174	207	339	3370
Chase Bank Ltd	1499	1668	1931	1980	3196
Citibank N.A.	32	35	30	26	881
Commercial Bank of Africa Ltd	3585	4835	4764	4917	3770
Consolidated Bank of Kenya Ltd	972	1301	1104	1221	2811
Co-operative Bank of Kenya Ltd	319	560	673	784	7982
Credit Bank Ltd	484	506	662	627	586
Development Bank of Kenya Ltd	444	436	584	816	1322
Diamond Trust Bank Ltd	128	147	175	226	1199
Dubai Bank Ltd	4803	5185	4667	4834	2314
Ecobank Ltd	866	966	974	1095	2461
Equatorial Commercial Bank Ltd	756	810	933	1177	3028
Equity Bank Ltd	91	79	88	103	7469
Family Bank Ltd	2074	1939	1664	1787	2847
Fidelity Commercial Bank Ltd	1751	2350	3070	4008	811
First Community Bank Ltd	1658	1825	2314	2974	1518
Giro Commercial Bank Ltd	3874	3912	4573	6183	250
Guaranty Trust Bank Ltd.	167	170	205	192	472
Guardian Bank Ltd	7062	11061	11976	2526	787
Gulf African Bank Ltd	2368	2913	3398	4482	1033
Habib A.G. Zurich	88	10	62	66	84
Habib Bank Ltd	539	696	1001	1280	342
Housing Finance Co. of Kenya Ltd	519	586	707	643	4163
I & M Bank Ltd	1515	1966	2086	2283	1913
Imperial Bank Ltd	1866	2420	2703	2174	1798

Jamii Bora Bank Ltd	2751	3587	4007	3158	2542
Kenya Commercial Bank Ltd	1542	2021	2257	1743	1364
K-Re p Bank Ltd	2064	2719	3038	2299	1745
Middle East Bank Ltd	8995	11908	13303	9866	7258
National Bank of Kenya Ltd	3201	4259	4758	3458	2461
NIC Bank Ltd	1844	2465	2754	1961	1347
Oriental Commercial Bank Ltd	3306	4440	4961	3462	2292
Paramount Universal Bank Ltd	6027	8134	9088	6215	3955
Prime Bank Ltd	583	791	883	592	361
Standard Chartered Bank Ltd	2576	3508	3920	2573	1501
Trans-National Bank Ltd	2481	3394	3792	2439	1356
UBA Kenya Bank Ltd	2063	2834	3167	1996	1054
Victoria Commercial Bank Ltd	1918	2647	2958	1826	912

TOTAL REVENUE (kshs '000')

NAME OF THE BANK	2011	2012	2013	2014	2015
Kenya Commercial (KCB)	25,181,	38,898	45,187	48,185	51,165
Equity Bank Limited	18,376	28,497	27,985	30,875	27,985
Co-op Bank	16,374	24,596	26,897	31,896	32,897
Barclays Bank	17,632	19,698	21,987	25,987	23,987
Standard Chartered Bank Ltd	12,123	21,041	17,985	23,987	22,876
CFC Stanbic Bank	8,578	11,654	13,874	16,876	18,765
Commercial Bank of Africa	5,487	10,446	13,785	16,987	15,487
Diamond Trust Bank Kenya	7,226	9,026	11,876	13,876	15,987
I & M Bank	7,171	12,682	14,674	18,965	21,908
Citibank, N.A.	4,067	10,966	12,453	18,763	21,907
NIC Bank Ltd	6,285	7,102	8,876	11,034	16,987
National Bank(NBK)	6,458	8,430	7,564	9,645	11,342
Bank of Africa	3,013	6,417	8,987	10,643	12,908
Bank of Baroda (K) Ltd	3,926	5,634	7,896	8,764	9,654
Chase Bank Limited	3,313	5,901	8,764	10,674	12,097
Prime Bank Limited	3,235	5,108	6,987	9,867	10,654
Housing finance	3,464	5,069	6,785	8,764	9,876
Ecobank Kenya Ltd	2,034	6,519	3,452	5,897	8,765
Family Bank	2,844	2,586	4,534	6,876	8,098
Imperial Bank Limited	4,300	4,776	5,896	7,986	12,987
Bank of India	2,159	2,840	3,987	5,753	6,098
Consolidated Bank of Kenya	1,586	2,225	3,985	5,897	6,987
Fina Bank Limited	1,511	2,637	3,876	6,897	7,896
Equitorial Commercial Bank	1,076	2,139	3,785	5,987	7,987
Gulf African Bank	964	1,884	2,875	3,876	4,569
African Banking Corporation	1,267	1,476	1,657	2,267	2,879
Giro Commercial Bank	813	1,432	2,876	3,097	4,785
Development Bank of Kenya	1,038	1,644	1,876	2,876	3,987
Fidelity Commercial Bank	1,057	1,619	2,786	3,785	4,897
K-Rep Bank Ltd	1,307	1,608	1,879	2,987	3,987
Guardian Bank	661	1,353	1,564	2,002	2,143

First community Bank	595	940	1,764	2,987	3,897
Habib AG Zurich	625	1,062	1,856	2,896	3,897
Victoria Comm. Bank Ltd	740	1,847	2,000	2,875	3,097
Transnational Bank Limited	701	985	1,987	2,985	3,835
Habib Bank Limited	485	681	789	865	987
Credit Bank Ltd	560	833	987	1,765	2,876
Oriental Comm. Bank	460	938	1,765	2,876	3,876
Paramount-Universal Bank	491	695	675	1,001	1,234
Middle East Bank of Kenya	393	625	897	908	987
UBA BANK	234	236	367	564	987
Dubai Bank Limited	205	256	564	897	1,987

BOOK VALUE TOTAL LIABILITIES (kshs '000')

NAME OF THE BANK	2011	2012	2013	2014	2015
African Banking Corporation Limited	5,288	7,074	10,134	11,491	13,680
Bank of Africa (K) Limited	19,588	29,982	37,588	37,938	46,372
Bank of Baroda (K) Limited	20,578	22,578	22,578	23,579	28,389
Bank of India Limited	8,015	9,015	10,015	10,673	12,376
Barclays Bank of Kenya Limited	87,147	99,901	104,204	118,362	125,423
CfCStanbic Bank (K) Limited	75,225	94,885	66,150	103,848	180,512
Chase Bank Limited	11,131	18,244	29,742	41,430	57,236
Citibank N.A. Kenya	18,976	28,451	29,284	77,993	68,093
Co - operative Bank of Kenya Limited	86,618	109,409	119,088	137,087	179,486
Commercial Bank of Africa Limited	57,935	64,257	66,150	65,203	12,851
Consolidated Bank of Kenya Limited	6,047	9,197	10,077	10,855	9,213
Credit Bank Limited	1,927	2,883	3,112	4,328	5,528
Development Bank of Kenya Limited	4,802	5,902	6,632	8,108	8,528
Diamond Trust Bank (K) Limited	51,260	71,298	87,707	110,945	137,655
Dubai Bank Limited	1,431	1,517	1,783	2,483	2,461
Ecobank Kenya Limited	11,256	12,177	13,968	18,460	22,982
Equatorial Commercial Bank Limited	4,792	6,635	7,538	9,029	10,068
Equity Bank Limited.	78,302	113,824	135,692	171,363	214,170
Family Bank Limited.	10,208	16,332	17,896	27,943	37,925
Fidelity Commercial Bank Limited	5,838	6,239	6,639	7,259	9,259
First Community Bank Limited	4,053	4,353	5,453	7,212	9,766
Giro Commercial Bank Limited	4,933	6,360	5,519	6,909	7,717
Guaranty Trust Bank Limited	10,165	11,836	14,180	17,955	19,348
Guardian Bank Limited	5,253	6,153	7,153	8,604	9,627

Gulf African Bank Limited	6,271	7,440	9,447	10,665	13,791
Habib Bank A.G. Zurich	451	382	436	13,856	7,786
Habib Bank Limited	259	288	341	11,181	5,389
HF Bank Limited	4,467	5,223	5,294	18,447	31,827
I&M Bank Limited	50,273	66,366	87,835	91,833	101,611
Imperial Bank Limited	11,153	15,659	21,292	26,172	30,998
Jamii Bora Bank Limited	2,451	2,799	3,453	4,035	4,628
K - Rep Bank Limited	5,252	6,754	6,955	8,892	10,608
Kenya Commercial Bank Limited	148,113	198,725	211,664	227,722	283,732
Middle East Bank (K) Limited	2,911	2,911	3,411	3,711	3,466
National Bank of Kenya Limited	20,845	28,068	28,347	39,567	65,641
NIC Bank Limited	40,755	56,625	71,540	83,493	102,042
Oriental Commercial Bank Limited	2,451	2,799	3,453	4,035	4,628
Paramount Universal Bank Limited	2,342	2,851	3,112	9,044	5,887
Prime Bank Limited	14,837	18,394	21,151	26,752	34,481
Standard Chartered Bank (K) Limited	60,337	96,098	112,695	129,672	122,749
Trans - National Bank Limited	1,938	3,308	4,239	5,297	6,163
UBA Kenya Limited	1,215	1,517	1,440	1,932	2,443
Victoria Commercial Bank Limited	3,485	4,110	5,291	8,363	10,979