

**EFFECT OF CORPORATE GOVERNANCE ON PERFORMANCE OF BANKS DUE TO  
NON-PERFORMING ASSET PORTFOLIOS: A CASE OF COMMERCIAL BANKS IN  
KENYA**

**BY**

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## DECLARATION

I certify that this thesis has not been previously presented for a degree in Maseno University, or in any other University. The work reported herein has been carried out by me and all sources of information have been acknowledged by means of references.

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## **DEDICATION**

This work is dedicated to my late wife Millicent Akinyi Baraza.



## ABSTRACT

Corporate governance can be linked to performance of banks due to non-performing asset portfolios (NPAs) in Kenya but this has not been determined empirically. Information is lacking on effect of corporate governance on total income, liquidity and profitability due to NPAs. The purpose of the study was to determine effect of corporate governance on performance of banks due to NPAs in Kenya. The study sought factors contributing to poor performance of banks, effect of corporate governance on total income due to NPAs, effect of corporate governance on liquidity due to NPAs and effect of corporate governance on profitability due to NPAs. The study was guided by a Shareholder theory where the independent variable is corporate governance and dependent variable is performance of banks. The study employed Panel Least square data analysis. Target population was 43 heads of credit of banks operating in Kenya from 2005 to 2012. Simple random sampling technique was used to select a sample size of 24 heads of credit. Secondary data was collected through review of records, reports, journals and books. Primary data was obtained from respondents through questionnaire and interview schedule. Instrument reliability stood at Cronbach's Alpha of 0.65. Objective one was analyzed using percentages and frequencies. Objectives two to four were analyzed using panel data analysis. Poor lending, mismanagement, customers' unwillingness to repay and all the three jointly, contribute to NPAs at 41.7%, 12.5%, 16.7% and 29.2% respectively. Results for objective two showed  $a_1$ ,  $a_2$  and  $a_3$  as 18.525(p=0.065), 85.921(p=0.001) and 45.605(p=0.097) respectively. Hence a unit change in standard deviation in efficiency causes 45.605 standard deviations in total income, significantly. Results for objective three showed  $a_1$ ,  $a_2$  and  $a_3$  as -0.055(p=0.121), 0.363(p=0.000) and -0.101(p=0.292) respectively. Thus a unit change in standard deviation in capital adequacy causes 0.363 standard deviations in liquidity, significantly. Results for objective four showed  $a_1$ ,  $a_2$  and  $a_3$  as 1.463(p=0.704), 36.334(p=0.000) and -9.814(p=0.352) respectively. Hence a unit change in standard deviation in asset quality causes 1.463 standard deviations in profitability significantly. R-Square results were 0.63, 0.665 and 0.161 for profitability, total income and liquidity models respectively. This implies the models are stable and valid for prediction at 63%, 66.5% and 16.1% respectively. In conclusion different factors contribute to NPAs at different levels, corporate governance significantly affect total income, have mixed effect on liquidity and significantly affect profitability. Asset quality and capital adequacy should be carefully evaluated and efficiency enhanced. The study will be significant in the management of financial institutions. Policy makers and regulators may use it. It can also form a basis for further research.

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## **LIST OF ABBREVIATIONS**

NPAs	Non-Performing Assets
NPLs	Non-Performing Loans
TLs	Total Loans
NLs	Net Loans
OD	Overdraft
CBK	Central Bank of Kenya
BBK	Barclays Bank of Kenya
COOP	Cooperative Bank of Kenya
NBK	National Bank of Kenya
STD	Standard Chartered Bank
KCB	Kenya Commercial Bank
BOB	Bank Of Baroda (K) Ltd
Victoria	Victoria Commercial Bank
DICGC	Deposit Insurance and Credit Guarantee Corporation
ECGC	Export Credit Guarantee Corporation
AMCs	Asset Management Companies
VAR	Vector Auto Regression Model
ROAA	Return on Average Asset
GDP	Gross Domestic Product
ARDL	

## **WORKING DEFINITIONS OF TERMS**

### **Corporate governance**

Corporate governance is the process and structure used to direct and manage business affairs of the company towards enhancing prosperity and corporate accounting with the ultimate objective of realizing shareholders long-term value while taking into account the interest of other stakeholders.

### **Non-performing assets**

An asset becomes non-performing when it ceases to generate income for the bank, usually after a period of more than 90 days.

### **‘Out of Order’ status**

An account should be treated as ‘**out of order**’ if the outstanding balance remains continuously in excess of the sanctioned limit, usually after a period of more than 90 days.

### **‘Overdue’**

Any amount due to the bank under any credit facility is ‘overdue’ if it is not paid on the date fixed by the bank.

### **Income recognition – Policy**

This policy defines which income should be recognized or form part of the banks’ income.

### **Reversal of Income**

If any advance, including bills purchased and discounted, becomes NPA as at the close of any year, interest accrued and credited to income account in the corresponding previous year, should be reversed or provided for if the same is not realized.



## **Asset Classifications**

Banks are required to classify non-performing assets further into the following categories based on the period for which the asset has remained non-performing and the realisability of the dues: Normal (Standard); Watch; Sub-standard Assets; Doubtful Assets; Loss Assets.

Normal (Standard) - Well documented facilities granted to financially sound customers where no weaknesses exist.

Watch - Principal and interest is due and unpaid for 30 to 90 days for term loans. These are facilities which exhibit potential weaknesses but are not past due.

Substandard - Principal and interest is due and unpaid for more than 90 to 180 days for term loans. Paying capacity of the borrower is deteriorating.

Doubtful - Principal and interest is due and unpaid for more than 180 to 360 days for term loans collection being highly questionable and improbable.

Loss - Principal and interest is due and unpaid for more than 12 months for term loans. Loans considered uncollectible.

## **Stakeholders**

These are the individuals, organizations or societies that have interest in the bank.

## **Fund-based advances**

These are advances where funds are disbursed immediately after sanction. They include overdrafts, term loans, demand loans, cash credits.

## **Non-fund based advances**

These are advances where funds need not necessarily be disbursed on sanction. These are off-balance sheet items or contingency liabilities. They include; letters of credit, guarantees and acceptances.

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## **CHAPTER ONE**

### **INTRODUCTION**

This chapter presents the background of the study, statement of the problem, objectives of the study and hypotheses, justification and scope of the study as well as the conceptual framework.

#### **1.1 Background of the Study**

Corporate governance is a set of decisions and actions used to direct and control an organization. It consists of relationships between, and accountability of, the organization's stakeholders, as well as the laws, policies, procedures, practices, standards, and principles which may affect the organization's direction and control (Cadbury, 1992). It also covers reviewing the organization's practices and policies on ethical standards and principles, and organization's compliance with its own code of conduct. Corporate governance has become one of the most topical issues in the modern business world today. Spectacular corporate failures, such as those of Enron, WorldCom, the Bank of Credit and Commerce International (BCCI), Polly Peck International, and Baring Bank, have made it a central issue, with various governments and regulatory authorities making efforts to install stringent governance regimes to ensure the smooth running of corporate organizations, and prevent such failures (Al-Baidhani, 2014). Lack of stringent Corporate Governance mechanisms coupled with national economic downturn; customer failure to disclose vital information during the loan application process; lack of an aggressive debt collection policy are perceived as the main factors contributing to the non-performing debt problem in Kenya leading to poor bank performance and their failures. The import of this argument is that, the loan facilities granted are not serviced or repaid as per the terms and conditions agreed upon. A corporate governance system is defined as a more-or-less country-specific framework of legal, institutional and cultural factors shaping the patterns of influence that shareholders (or stakeholders) exert on managerial decision-making. Corporate governance mechanisms are the methods employed, at the firm level, to solve corporate governance problems (Basuony et al, 2014). Its elements are asset quality, capital adequacy and efficiency resulting from bank and regulator processes (Muhammad *et al.*2011).

In Kenya stringent measures on Corporate Governance became more pronounced and conspicuous after and during the Kenya banking and economic crisis of 1996-2002. Over the

period banks collapsed, merged or went into receivership, hence loss of jobs, loss of public trust and confidence as well as public apathy. Lack of stringent corporate governance have had serious effect on the performance of these banks due to non-performing asset portfolios. The banking system required a new set of guidelines, accounting and disclosure norms in order to cope with these changes, according to the Economic Review (2002, June) and the Kenyan Banker (2002, no.13). George (1996) asserts that, because banks are closely intertwined financially with each other through lending to and borrowing from each other, holding deposit balances with each other, and the payments clearing system, a failure of any one bank is believed to be more likely to spill over to other banks and to do so more quickly. Thus, the banking system is seen as more susceptible to systemic risk, the probability that cumulative losses will occur from an event that ignites a series of successive losses along a chain of institutions or markets comprising a system. A default by one bank on an obligation to another bank may adversely affect that bank's ability to meet its obligations to other banks and so on down the chain of banks and beyond (Nelson *et al.*2008).

Non-performing assets indicate an advance for which interest or repayment of principal or both remains overdue for a period of 90 days or more. An advance/loan is treated as non-performing when it fails to satisfy its repayment obligations. Thus, non-performing assets are loans in jeopardy of default (BIS, 2005). Higher non-performing assets resulted in many bank failures (Nayak et al, 2010). Nelson *et al.* (2008), explain that many financial institutions that collapsed in Kenya since 1986 failed due to non-performing loans. From the study national economic downturn; customer failure to disclose vital information during the loan application process; lack of an aggressive debt collection policy were perceived as the main factors contributing to the non performing debt problem in Kenya. Twenty years after independence in 1983, the stage was set for Kenya's first post-independence banking crisis when several indigenous banks developed acute liquidity problems. In spite of efforts by Treasury and Central Bank to bail out the ailing institutions, one institution was closed in December 1984. This crisis and failure exposed the inadequacy of the safety-net and failure resolution mechanisms existing at the time, which precipitated amendments to the Banking Act in 1985 to expand the safety net and improve the bank failure resolution mechanism. The Deposit Protection Fund Board (DPFB) was established as a deposit insurance scheme to provide cover for depositors and act as liquidator of banks which could not be salvaged. The same amendments gave Central Bank of Kenya the

responsibility of risk minimization through enhanced prudential regulation, supervision and surveillance. The function of curator and revival of ailing institutions was also entrusted to the Central Bank. In a study of national banks that failed in the mid 1980's in USA, the then Controller of the Currency, Joseph (1988), found out that, the consistent element was the failure of the banks management systems for controlling loan quality and transaction risk.

In Kenya and especially in the past three decades, poor loan management has been pin pointed as the major factor in the burgeoning local bank failures. George *et al* (1998) note that to overcome deficiencies in systems and procedures that spawn poor loans, banks must develop a credit culture supported by well-conceived management strategies for controlling credit risk. It must establish its priorities with respect to the market place and create value addition in terms of credit quality, while designing its credit risk management strategy. Shephard *et al* (1998), argue that banks now appreciate that there is an expected loss or average likelihood of a loss to any particular class of borrowers, a loss that is seen as a cost of extending credit and is usually reflected in the credit spread.

Muhammad *et al* (2011), argues that poor corporate governance of the banks can drive the market to lose confidence in the ability of a bank to properly manage its assets and liabilities, including deposits, which could in turn trigger a liquidity crisis and then it might lead to economic crisis in a country and pose a systemic risk to the society at large. Michael (2010), states that though Southwest Florida's community banks performed better in the quarter ended June 30 than in earlier periods, non-performing loans still represent a major impediment to their survival and ability to grow.

Hippolyte (2005), states that simulated results show that macroeconomic stability and economic growth are associated with a declining level of non-performing loans; whereas adverse macroeconomic shocks coupled with higher cost of capital and lower interest margins are associated with a rising scope of non-performing loans. Historically, the occurrence of banking crises has often been associated with a massive accumulation of non-performing loans which can account for a sizable share of total assets of insolvent banks and financial institutions, especially during episodes of systemic crises. More recently, the apparent association between non-performing loans and banking crises was further corroborated by the 1997 East Asian financial

and banking crisis which left the four countries severely affected, with a more than threefold increase in their volume of non-performing loans in the period leading up to the crisis. For instance, in Indonesia where over 60 banks collapsed during the crisis, non-performing loans represented about 75% of total loan portfolios (Caprio *et al*, 2002). The banking crisis which affected a large number of Sub-Saharan African countries in the 1990s was also accompanied by a rapid accumulation of non-performing loans.

Non-performing loans generally refer to loans which for a relatively long period of time do not generate income; that is the principal and/or interest on these loans has been left unpaid for at least 90 days. Alan (2004) noted that since 2002 the Government of Kenya has sought to initiate reforms in a wide range of areas in light of problems in the financial sector that concern the government and undermine the prospects of achieving its main objective for the economy. Such symptoms he said include: An excessive ratio of non-performing loans in some major banks; persistence of wide interest rate spreads and a high cost of credit; insufficient quantities of credit and poor quality credit assessments; weak legal arrangements creating long delays in contract enforcement etc. Jevans (2010), points out that the Kenya banking sector is reeling from an escalating stock of non-performing loans. The Kenyan banking sector was in the 80's and 90's saddled with a momentous Non-Performing Loans (NPLs) portfolio. This invariably led to the collapse of some banks. One of the catalysts in this scenario were "Serial defaulters", who borrowed from various banks with no intention of repaying the loans. Undoubtedly these defaulters thrived in the "information asymmetry" environment that prevailed due to lack of a credit information sharing mechanism.

Commercial banks are the foundation of the payment system in many economies by playing an intermediary role between savers and borrowers. They further enhance the financial system by ensuring that financial institutions are stable and are able to effectively facilitate financial transactions. As at 31<sup>st</sup> December 2011, the banking sector in Kenya comprised of the Central Bank of Kenya, as the regulatory authority, 44 banking institutions (43 commercial banks (appendix-I) and 1 mortgage finance company - MFC), 4 representative offices of foreign banks, 6 Deposit-Taking Microfinance Institutions (DTMs), 118 Forex Bureaus and 2 Credit Reference Bureaus (CRBs). Out of the 44 banking institutions, 31 locally owned banks comprise 3 with public shareholding and 28 privately owned while 13 are foreign owned. The 6 DTMs, 2 CRBs and 118 forex bureaus are privately owned. The foreign owned financial institutions comprise of

9 locally incorporated foreign banks and 4 branches of foreign incorporated banks (CBK annual report 2011). Each of these financial institutions desire to maximize profits as consistent increment in profitability is associated with stability.

Overall, the banking sector in Kenya is controlled by five banks namely, KCB, Equity, Co-operative, Barclays and Standard Chartered, which together account for 50% of the entire sector's asset base (Think Business May 2012 Vol 1, no. 3). The Banking sector is an indispensable financial service sector supporting development plans through channelizing funds for productive purpose, intermediating flow of funds from surplus to deficit units and supporting financial and economic policies of government. The importance of bank's stability in a developing economy is noteworthy as any distress affects the development plans (Rajaraman et al 2002) thereby the economic progress (Thiagarajan, et al, 2011). The stability of banking hence is a pre-requisite for economic development and resilience against financial crisis. Like any other business, success of banking is assessed based on profit and quality of asset it possesses.

Even though bank serves social objective through its priority sector lending, mass branch networks and employment generation, maintaining asset quality and profitability is critical for banks survival and growth. A major threat to banking sector is prevalence of Non-Performing Assets (NPAs). NPAs represent bad loans, the borrowers of which failed to satisfy their repayment obligations (Siraj et al 2012). Michael et al (2006) emphasized that NPA in loan portfolio affect operational efficiency which in turn affects profitability, liquidity and solvency position of banks. Batra (2003) noted that in addition to the influence on profitability, liquidity and competitive functioning, NPA also affect the psychology of bankers in respect of their disposition of funds towards credit delivery and credit expansion. NPA generate a vicious effect on banking survival and growth, and if not managed properly leads to banking failures. Many researchers including Chijoriga (2000) and Dash et al (2010) showed the relationship between bank failures and higher NPAs worldwide. In Kenya, commercial banks play an important role in mobilizing financial resources for investment by extending credit to various businesses and investors. Lending represents the heart of the banking industry and loans are the dominant assets as they generate the largest share of operating income. The liberalization of the Kenya banking industry in 1992 marked the beginning of intense competition among the commercial banks, which saw banks extend huge amounts of credit with the main objective of increasing



profitability. Some of the loans were “political loans” granted with little or no credit assessment; other loans were made to insiders, all of which subsequently became non-performing.

The low quality loans led to high levels of non-performing loans and subsequently eroded profits of banks through loan provisioning some of which appeared out rightly political. Commercial banks adopt different credit risk management policies majorly determined by; ownership of the banks (privately owned, foreign owned, government influenced and locally owned), credit policies of banks, credit scoring systems, banks regulatory environment and the caliber of management of the banks. Expanding lending in the short-term boosts earnings, thus the banks have an incentive to ease their credit standards in times of rapid credit growth, and likewise to tighten standards when credit growth is slowing (Rajan 1994).

Banking sector remained stable in 2003 and reported improved performance resulting from lower bad debts charge, reduced operation costs and significant inflow of foreign deposits into local banking system. Two financial institutions were placed under statutory management and one under liquidation in 2002/03. Central Bank Act was amended to allow formation of a Monetary Policy Committee (MPC) in 2004 and transferring powers from the Minister to Central Bank of Kenya, to develop risk management guidelines to cover the most common types of risk and to vet Board of Directors, senior management and significant shareholders. The banking sector remained stable in 2005/06 but two financial institutions; Daima Bank Ltd and Prudential Building Society were closed and assets and liabilities of two others were acquired. Commercial Bank of Africa acquired the assets and liabilities of First American Bank Ltd and East Africa Building Society (Central Bank Annual Supervision Report, 2006). In 2006, banking sector remained stable while financial performance improved significantly as evidenced by impressive growth in institutions balance sheets and pre-tax profits. One bank was put under statutory management following heightened adverse publicity related to its alleged malpractices.

Non-performing loans decreased due to enhanced corporate governance and risk management as well as enforcement of strict provisioning by the central bank of Kenya. Establishment of credit bureaus continued to receive emphasis from the central bank of Kenya to encourage sharing of information (Central Bank Annual Supervision Report, 2006). In 2007, non-performing loans decreased attributable to government of Kenya reduction of non-performing loans in one leading

bank, recoveries and write-offs in a number of other banking institutions. Two commercial banks were licensed that are Sharia compliant i.e the First Community Bank and Gulf Bank (Central Bank Annual Report, 2008). The main challenges to commercial banks in their operations are the disbursement of loans and advances. There is need for commercial banks to adopt appropriate credit appraisal techniques to minimize the possibility of loan defaults as this may lead to adverse effects such as the depositors losing their money, lose of confidence in the banking system, and financial instability (Central Bank of Kenya, 1997).

The Basel Committee on Banking Supervision states that “effective corporate governance practices are essential to achieving and maintaining public trust and confidence in the banking system, which is critical to the proper functioning of the banking sector and the economy as a whole”. A close examination of the failed banks identified the following weaknesses which were common in most of them; large credit exposures, lending to connected parties, poor or absence of a credit policy, incompetent management coupled with ineffective boards, foreign exchange exposures and an absence of or inadequate risk management frameworks (Caleb et al 2011). It must further be noted that Banks are highly leveraged institutions, funding their assets largely from customer deposits and must therefore be accountable to their depositors “ibid”. Weaknesses in the Kenya banking system became apparent in the late 1980s and were manifest in the relatively controlled and fragmented financial system.

Differences in regulations governing banking and non-bank financial intermediaries, lack of autonomy and weak supervisory capacities to carry out the Central Bank’s surveillance role and enforce banking regulations, inappropriate government policies which contributed to an accumulation of non-performing loans, and non-compliance by financial institutions to regulatory requirements of the 1989 Banking Act among others posed a challenge to the Kenya banking system. Many banks that collapsed in the late 1990’s were as a result of the poor management of credit risks which manifested in high levels of non-performing loans (Central Bank Supervision Report, 2005). It is also important to note that the health of the financial system largely depends on their capacity to identify and measure, monitor and control their risks. Banks face a wide range of complex risks in their day to day operations, including risks relating to credit, liquidity, exposure concentration, market risks, settlement, and internal operations. The nature of banks’ business particularly the maturity mismatch between their assets and liabilities,

their relatively high gearing and their reliance on creditor confidence creates particular vulnerabilities.

The Central Bank of Kenya was established in 1966 through an Act of Parliament - the Central Bank of Kenya Act of 1966, out of a desire to have an independent monetary and fiscal policy. In addition to performing the duties of traditional commercial banks, the Central Bank of Kenya has the special responsibility of ensuring price stability by preventing inflation, creating monetary policy and supervising other commercial banks. The Central Bank of Kenya Act of 1966 set out objectives and functions and gave the Central Bank limited autonomy. Since the amendment of the Central Bank of Kenya Act in April 1997, the Central Bank operations have been restructured to conform to ongoing economic reforms (The CBK website). Section 4 of the Central Bank of Kenya Act states the core mandate of the Bank as follows: The principal object of the Bank shall be to formulate and implement monetary policy directed to achieving and maintaining stability in the general level of prices; The Bank shall foster the liquidity, solvency and proper functioning of a stable market-based financial system; and Subject to (1) and (2), the Bank shall support the economic policy of the Government, including its objectives for growth and employment. CBK remains the single most important regulator on commercial banks. It directs and controls commercial banks and financial institutions to adhere to the market requirements and demands. Other regulators include the Ministry of Finance, Capital Markets Authority (CMA), Kenya Revenue Authority and Insurance Regulatory Authority etc.

Until fairly recently, corporate governance was not a topic that attracted much public attention. However, recent events, such as the Enron scandal and other corporate governance failures including events that led to the recent financial crisis, have made corporate governance a major topical issue. The recent events have highlighted the important role that corporate governance plays in a modern financial sector and the economy at large. The Bank of Zambia has been periodically reviewing the Banking and Financial Services Act (BFSA) to bring it up to date with international standards and current global practices. One of the areas the Bank has continued to strengthen on the corporate governance provisions is to ensure that the board of directors and senior management of banks and financial institutions conduct the affairs of their institutions prudently (Caleb, 2011).

The global financial crisis brought out some very important lessons. We should not think of more regulation but better regulation (Njuguna, 2011). Better regulation entails; i) A regulatory regime that can readily identify weaknesses and emerging vulnerabilities, ii) A regulatory regime capable of analyzing risks and so adequately pricing risks, iii) A regulatory regime that provides appropriate incentives (penalties) to induce prudent behavior in the market place, iv) A regulatory regime that encourages innovations and strong institutions to develop.

Objectives of Financial Sector Regulation (Nzomo, 2009) include: Customer Protection to ensure; Market failures are corrected, Information asymmetry between suppliers of financial products and consumers is redressed, Transparency to ensure full, plain, adequate and comparable information about prices, terms and conditions of financial products, Choice to ensure fair, non-coercive practices in selling financial products and services and collection of payments, Redress – inexpensive and speedy mechanisms to address complaints and resolve disputes, Maintaining financial stability because financial sector: affects long-term economic growth through its effect on the efficiency of intermediation, allows for monitoring of the users of external funds, affecting thereby the productivity of capital employed, impacts the volume of saving, which influences the future income-generating capacity of the economy, affects the stability of the whole economy. Principles of financial sector regulation “ibid” include; Clear Objectives – The regulator should have a clear mandate set out in its enabling legislation; Independence and Accountability - Decisions by the regulator within its sub-sector should not be subject to undue influence from the Minister or any other parties. Adequate Resources - The regulator must have adequate funding, preferably through industry levy, so as to ensure independence and enable the industry have a role in checking the regulator’s spending; Effective Enforcement Powers – The regulator must be able to take enforcement measures against all the players that it is required to regulate; Comprehensiveness of Regulation – Regulation should be comprehensive and not leave any regulatory gaps; Cost-Efficient Regulation – The direct cost of regulation in terms of levies and fees as well as indirect compliance costs should be reasonable and not an undue burden on the regulated institutions; Market Developments and Industry Structure should mirror the sectors being regulated.

According to the Central Bank Annual Supervision Report, 2000, on the basis of sectoral distribution of gross loans, loan accounts and non-performing loans; during the year ended 31st

December 2010, over 70% of the sector's numbers of loan accounts were in personal/household sector which also accounted for over 28% of the banking sector credit and 31% of the NPLs. Trade, Manufacturing and Real Estate sectors accounted for about 44% of the sector's credit and 45% of NPLs (The Banking Supervision Annual Report 2010). On asset quality; gross non-performing loans (NPLs) declined by 5.1 percent from Ksh. 60.7 billion in December 2009 to Ksh. 57.6 billion in December 2010, resulting to an improvement in the ratio of gross non-performing loans to gross loans from 8.0 per cent in December 2009 to 6.3 percent as at December 2010.

The decline in gross NPLs was partly attributable to recoveries and the improved credit appraisal monitoring standards and robust domestic economic growth. Over the same period, the total non-performing loans, net of interest in suspense dropped by 6.2 percent from Ksh. 50.9 billion in December 2009 to settle at Ksh. 47.7 billion in December 2010. As a result, the asset quality, which is measured by the ratio of net non-performing loans to gross loans improved from 3.2 percent in December 2009 to 2.1 percent in December 2010. Bad debts charge increased by 28 percent from Ksh. 8.6 billion in December 2009 to Ksh. 11.0 billion in December 2010 due to bad debts arising from the normal course of business. While the commercial banks have faced difficulties over the years for a multitude of reasons, the major cause of serious financial problems continues to be directly related to credit standards for borrowers, poor portfolio risk management or lack of attention to changes in the economic circumstances and competitive climate.

Understanding the corporate governance of banks is especially important because of the systemic risk that banking activity poses for the economy at large as evidenced by the U.S. savings and loan crisis in the 1980's, the Asian financial crisis in the 1990's and the more recent subprime mortgage crisis (Alexander 2006). Notwithstanding, the economic relevance of banks and of corporate governance within banks, corporate governance issues related to banks have been overlooked by prior research, which tends to focus on firms in the non-financial sector (Handley et al. 2001, Adams et al 2003). Most studies on corporate governance exclude banks from their samples and have exhibited mixed results regarding the role of corporate governance measures in explaining financial performance and accounting outcomes. Further, banks are considered by many to be extremely complex and opaque which may result in information asymmetries that

intensify agency problems (Morgan 2002). Few empirical studies have specifically investigated the corporate governance structure of banks and its association with performance. Typically, prior studies focus on one dimension of corporate governance (e.g., board independence) and examine its relationship with some outcome variable (e.g., stock return) or an accounting measure (e.g., total accruals). Studies by Angela (2010), Caleb (2011) and Larcker et al. (2007) have not delved specifically on internal factors contributing to poor performance of commercial banks. For this reason, information on the same among commercial banks in Kenya is lacking. The findings of this study are important in the management of internal factors affecting banks and financial institutions.

Further, studies particularly focusing on Kenya, have not covered effect of asset quality, capital adequacy and efficiency on total income of commercial banks due to NPAs. Efforts by Kabigting, et al (2011) Adebolaa et al. (2011) Rezaee (2008) Caleb (2011), Kundu (2010) emphasized determinants of NPAs, corporate governance and earnings management. The studies further focused on relationship between corporate governance reforms and performance of banks, reasons for NPAs and consequences of NPAs. They left out effect of asset quality, capital adequacy and efficiency on total income due to non-performing asset portfolios. It remains unknown the state of the same among commercial banks in Kenya. This study brings to light the perils of operating banks without clear policies and procedures to manage non-performing assets and to advice on how better and improved lending practices can lead to enhanced incomes.

The studies have also not covered effect of asset quality, capital adequacy and efficiency on liquidity of commercial banks due to NPAs. The work of Tracey et al. (2011), Sethi et al (2007), Batra (2003), Klein (2013), Zeng (2012) and Abel (2011) dwelt on the background of NPAs and how NPA contribute to performance of banks. They fail to focus on effect of asset quality, capital adequacy and efficiency on liquidity of banks due to non-performing asset portfolios. Information is unavailable on the same among commercial banks in Kenya. This study shows that the soundness and integrity of any bank depends on its liquidity position.

Information is also lacking on effect of asset quality, capital adequacy and efficiency on profitability of commercial banks due to NPAs. Studies by Zeng (2012), Olweny and Shipho (2011), Bloem *et al.* (2001), Mileris (2015), Onuko, Muganda and Osiega, (2015) and Klein

(2013) delved into economic downturn and loan portfolio, trends of NPAs, bank specific factors and profitability, determinants of bank asset portfolio and determinants of NPAs in Islamic Banking. The studies did not cover effect of asset quality, capital adequacy and efficiency on profitability. For this reason information on the same is still lacking particularly among commercial banks in Kenya. This research offers information on credit appraisal methods with regard to the selection of assets and how this augments shareholder value through increased profitability.

## 1.2 Problem Statement

In Kenya lack of stringent Corporate Governance mechanisms have led to banks collapsing, merging or going into receivership leading to loss of jobs, public trust and confidence due to non-performing asset portfolios and poor lending prudence. National economic downturn; customer failure to disclose vital information during the loan application process; lack of an aggressive debt collection policy are perceived as the main factors contributing to the non-performing debt problem in Kenya. This has led to loan facilities granted not being serviced or repaid as per the terms and conditions agreed upon and this is the ground for anchoring this study. Poor corporate governance mechanisms of the banks can drive the market to lose confidence in the ability of a bank to properly manage its assets and liabilities, which could in turn trigger a liquidity and economic crisis. Because banks are closely intertwined financially with each other through lending to and borrowing from each other, holding deposit balances with each other, and the payments clearing system, a failure of any one bank is more likely to spill over to other banks. Historically, the occurrence of banking crises has often been associated with a massive accumulation of non-performing loans which can account for a sizable share of total assets of insolvent banks and financial institutions, especially during episodes of systemic crises. The Kenyan banking sector was in the 1980's and 1990's saddled with a momentous non-performing loans portfolio which invariably led to the collapse of some banks. One of the catalysts in this scenario is "serial defaulters", who borrowed from various banks with no intention of repaying the loans. When banks lend money they do not intend to give it away. Yet, sometimes after the lending process, the loan may at some stage turn out to be in arrears and inadequately secured. Where there is non-repayment of borrowed funds at widespread levels there will be a devastating effect not only on the borrower but on the depositor, the bank and the entire economy. Where a bank does not employ adequate corporate governance measures alongside sophisticated credit analysis initiatives it will end up with untenable portion of bad debts putting its depositors' funds at insurmountable risk. Therefore the purpose of this research was to examine the effect of corporate governance on non-performing asset portfolios in the banking sector: A case of commercial banks in Kenya.



### **1.3 Objectives of the study**

The main objective of the study was to determine the effect of corporate governance on performance of banks due to non-performing asset portfolios among commercial banks in Kenya.

#### **1.3.1 Specific objectives of the study**

- 1) Establish factors contributing to poor performance of commercial banks in Kenya
- 2) Establish effect of asset quality, capital adequacy and efficiency on total income due to non-performing asset portfolios among commercial banks in Kenya.
- 3) Determine effect of asset quality, capital adequacy and efficiency on liquidity due to non-performing asset portfolios among commercial banks in Kenya.
- 4) Establish the effect of asset quality, capital adequacy and efficiency on profitability due to non-performing asset portfolios among commercial banks in Kenya.

### **1.4 Hypotheses**

Hypothesis 1:

Ho There is no effect of asset quality, capital adequacy and efficiency on total income due to non-performing asset portfolios among commercial banks in Kenya.

Hypothesis 2:

Ho There is no effect of asset quality, capital adequacy and efficiency on liquidity due to non-performing asset portfolios among commercial banks in Kenya.

Hypothesis 3:

Ho There is no effect of asset quality, capital adequacy and efficiency on profitability due to non-performing asset portfolios among commercial banks in Kenya.

### **1.5 Scope of the study**

The study was conducted in Kenya. 24 commercial banks with their head offices based in Nairobi were randomly selected from amongst 43 commercial banks operating in Kenya. The study was interested in the period between 2005 to 2012 and focused on establishing effect of corporate governance (capital adequacy, asset quality and efficiency) on performance of the banks due to NPA portfolios.

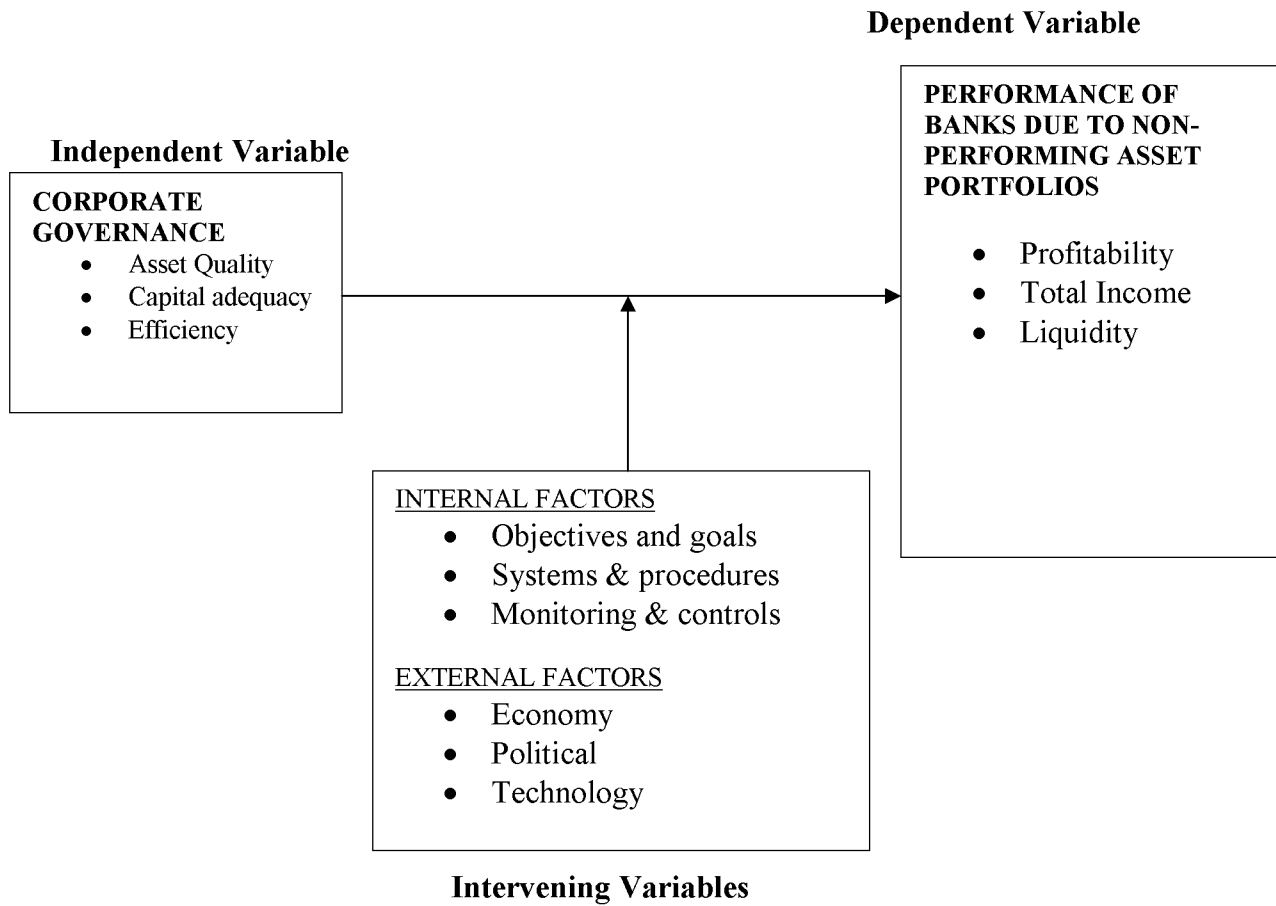
## **1.6 Significance of the study**

The findings of the study are significant in the management of the banks and financial institutions in Kenya. It brings to light the perils of operating financial institutions without clear guidelines and policies on the management of non-performing assets and to advice banks on better lending practices in order to curtail the occurrence of NPAs. It offers information on credit appraisal techniques with regard to the selection of assets and provide adequate guidelines for the Banks, towards the management of non-performing loan portfolios. Policy makers at the Central Bank of Kenya and other Regulators will be a live to the fact that poor corporate governance management structures may be the major factor in local bank failures. The study can also form a basis for further research by scholars in the banking sector. It expands on any previous research by addressing what owners of capital need to do for organizations to last for posterity. It will be used by secondary researchers, government bureaus and agencies, students, bank customers and employees; policy makers and scholars.

## **1.7 Conceptual Framework**

The study was guided by Shareholders Value Theory whereby independent variable is corporate governance and dependent variable is performance of banks due to non- performing asset portfolio. Intervening variables were internal and external factors. It is expected that corporate governance operationalized through asset quality, capital adequacy and efficiency (Friedman, 1970) have an effect on performance of NPAs of banks in terms profitability, total income and liquidity. The relationship is not perfect.

According to Friedman (1970), the development of corporate social responsibility, corporate social performance, socially responsible investing and global corporate citizenship all work together. Ethical responsibility theory advocates self-restraint and altruism duties and expansive public policy strengthening stakeholder rights. Corporate performance should be evaluated on the basis of incomes, profitability and efficiency. They exist to maximize profits within legal and ethical rules. Corporate failures in ensuring asset quality, efficiency and capital adequacy will affect bank performance in terms of liquidity, total income and profitability and in effect their social corporate responsibilities. It is expected that a number of internal and external factors interfere with the relationship as illustrated in figure 1.1.



**Figure 1.1:** Relationship between corporate governance and Performance of Banks due to Non-performing Asset Portfolios.

Source: Adapted from Friedman (1970)

## **CHAPTER TWO**

### **LITERATURE REVIEW**

This chapter reviews theoretical literature and empirical studies. It focuses on the theoretical foundations on which the study was built. It also explores comparative empirical literature which helps to explain the gap which the study sought to address. The literature discussed is mainly on corporate governance and performance among banks due to non performing asset portfolios.

#### **2.1 Theory of the Study**

The shareholder theory (Friedman, 1970), states that the sole responsibility of business is to increase profits. It is based on the premise that management is hired as the agent of the shareholders to run the company for their benefit, and therefore they are legally and morally obligated to serve their interests. The only qualification on the rule to make as much money as possible is “conformity to the basic rules of the society, both those embodied in law and those embodied in ethical custom.”

The shareholder theory is now seen as the historic way of doing business with companies realizing that there are disadvantages to concentrating solely on the interests of shareholders. A focus on short term strategy and greater risk taking are just two of the inherent dangers involved. For purposes of this study, the theory explains the interaction of stakeholders in governance of the banks resulting in different levels of NPAs subsequently affecting overall bank performance. Consequently, it explains the relationship that would exist between asset quality, capital adequacy and efficiency as elements of corporate governance with profitability, total income and liquidity as elements of performance of banks due to NPAs.

#### **2.2 The Concept of Corporate Governance**

Corporate governance is defined as “ways of bringing the interests of investors and managers into line and ensuring that firms are run for the benefit of investors (Mayer, 1997). It is concerned with the relationship between the internal governance mechanisms of corporations and society’s conception of the scope of corporate accountability (Deakin *et al.*, 1997).

It includes ‘the structures, processes, cultures and systems that engender the successful operation of organizations’ (Keasey *et al.* (1997). It deals with the ways in which suppliers of finance to

corporations assure themselves of getting a return on their investment (Andrei *et al.*, 1997). Corporate governance is therefore the process and structure used to direct and manage business affairs of the company towards enhancing prosperity and corporate accounting with the ultimate objective of realizing shareholders long-term value while taking into account the interest of other stakeholders. Corporate governance is one of the reasons that is believed to have played a role in the global financial crisis of 2008, where many commercial banks and investment banks worldwide collapsed or were bailed out by governments (Kabigting *et al.*, 2011). In Kenya stringent measures on Corporate Governance became more pronounced and conspicuous after and during the Kenya banking and economic crisis of 1996-2002. Over the period banks collapsed, merged or went into receivership, leading to loss of jobs, public trust and confidence. The banking system required a new set of guidelines, accounting and disclosure norms in order to cope with these changes (CBK, 2002, The Kenyan Banker, 2002). It has received wide attention in Kenya due to recognition that improved corporate governance will lead to improved productivity, efficiency and effectiveness. This will directly impact on the country's economic development especially as the government withdraws from direct involvement in the economy and leaves the private sector as the main engine for growth. Corporate Governance is the independent variable.

Asset quality is an evaluation of asset to measure the credit risk associated with it. Bank's asset comprises mainly of its loans and advances to customers and is related to the left-hand side of the bank balance sheet. Bank managers are concerned with the quality of their loans since that provides earnings for the bank. Loan quality and asset quality are two terms with basically the same meaning. According to Rezaee (2008) a bad quality loan has a higher probability of becoming a non-performing loan with no return. To assess asset quality, a ratio that is used is non performing loans (NPL) provision to operating income. This ratio measures to what extent the operating income is weighted down by the provisions set aside for NPL. A lower ratio is desirable. The Central Bank of Kenya continues to enforce strict compliance when it comes to provisioning; another ratio that is used is net NPL to total loans. This measure is an indication of whether the loan book is non-performing and to what extent. This shows whether or not a bank has been lending prudently. A lower ratio is desirable. According to Muhammad *et al.* (2011) capital adequacy refers to bank's capital sufficiency in relation to its liabilities and for it to be assessed, parameters used are; Core Capital to Total Deposits and Core Capital to Total Risk

Weighted Assets. The rule of the thumb is that bank's should progressively convert some of their earnings into capital to cover any liabilities that may occur in the future. For banks with limited earnings strategic decisions should be taken to ensure capital adequacy. The Central Bank of Kenya (CBK) stipulates that banks must maintain a core capital of not less than 8% of the total deposits, Total Risk Weighted Assets comprise the total value of the different assets categories weighted by their level of risk based on CBK guidelines. A higher ratio is desirable. The statutory minimum ratio is 12% (CBK, 2011). Efficiency is the ratio of Operating expenses to Total Net Operating Income, also known as Cost Income Ratio. It is a measure of how efficiently the bank is utilizing its resources to generate income. An efficient bank is a promising one because shareholders can expect higher returns in the future. A lower ratio is desirable.

### **2.3 Concept of Non-Performing Asset Portfolio**

A 'non-performing asset' (NPA) is defined as a credit facility in respect of which the interest and/or installment of principal has remained 'past due' for a specified period of time. An asset becomes non-performing when it ceases to generate income for the bank. This occurs when the borrower fails to repay the interest and/or principal on agreed terms (Siraj *et al.*, 2012). Classification of assets into NPA categories should be done taking into account the degree or well-defined credit weaknesses and the extent of dependence on collateral security for realization of dues. The classification of an asset as NPA should be based on the record of recovery. A bank should not classify an advance as NPA merely due to temporary deficiencies, such as balance outstanding exceeding the limit temporarily, non-submission of stock statements and non-renewal of the limits on the due date etc according to Phogat (2004). The reasons for NPA are classified differently into systematic and situational causes (Istrate *et al.*, 2007), overhead and incremental component (Poongavanam, 2000; Kumar, 2005) and into internal and external factors (Misra *et al.*, 2011; Muniappan 2002). They are also classified into random and non-random factors (Biswas *et al.*, 2005), bank-specific business and institutional environment factors (Boudriga *et al.*, 2009) and based on its effects (Islam, *et al.*, 2005). A '90 days' overdue' norm for identification of NPAs has been adopted by various banks in Kenya on the insistence of CBK with a view to moving towards international best practices and to ensure greater transparency. Accordingly, a non-performing asset (NPA) shall be a loan or an advance where; Interest and /or installment of principal remain overdue for a period of more than 90 days in respect of a term loan, the account remains 'out of order' in respect of an Overdraft (OD), the bill

remains overdue for a period of more than 90 days in the case of bills purchased and discounted, any amount to be received remains overdue for a period of more than 90 days in respect of other accounts. In some instances, commercial banks and other financial institutions have approved decisions that are not vetted. There have been cases of loan defaults and non-performing loans, massive extension of credit and directed lending (Angela, 2010). This has led to reduced interest income for the commercial banks and other financial institutions and by extension reduction in profits (De Young *et al.*, 2001; Dziobek, 1998; Uyemura *et al.*, 1992).

CBK requires commercial banks to maintain adequate provisions for bad and doubtful debts prior to declaring profits or dividends. In this regard, banks are required to adhere to the guideline on “Risk Classification of Assets, Provisioning and Limitation on Interest Recoverable on Non-Performing Loans”. The criterion for classification of loans and advances is determined by the performance of such facilities. The performance will generally show the repayment capability of the borrower and loans will be classified as either, normal, watch, substandard, doubtful or loss based on their characteristics as indicated below (CBK Supervision Annual Report, 2011): Normal - Well documented facilities granted to financially sound customers where no weaknesses exist. Watch - Principal and interest is due and unpaid for 30 to 90 days for term loans. These are facilities which exhibit potential weaknesses but are not past due. Substandard principal and interest is due and unpaid for more than 90 to 180 days for term loans. Paying capacity of the borrower is deteriorating. Doubtful - principal and interest is due and unpaid for more than 180 to 360 days for term loans. The collection is highly questionable and improbable. Loss - principal and interest is due and unpaid for more than 12 months for term loans. Loans considered uncollectible. The asset classification of OD accounts where a solitary or a few credits are recorded before the balance sheet date should be handled with care and without scope for subjectivity. Where the account indicates inherent weakness on the basis of the date available, the account should be deemed as an NPA. It is difficult to envisage a situation when only one facility to a borrower becomes a problem credit and not others. Therefore, all the facilities granted by a bank to a borrower will have to be treated as NPA and not the particular facility or part therefore which has become irregular (Reserve Bank of India master circular, 2001). In accounts where there is erosion in the value of security: an NPA need not go through the various stages of classification in case of serious credit impairment and such assets should be straight away classified as doubtful or written off as appropriate, erosion in the value of security



can be reckoned as significant when the realizable value of the security is less than 50 per cent of the value assessed by the bank or accepted by CBK at the time of last inspection, as the case may be. Such NPAs may be straight away classified under doubtful category and provisioning should be made as applicable to doubtful assets, if the realizable value of the security, as assessed by the bank/ approved valuers/ CBK is less than 10 per cent of the outstanding in the OD accounts, the existence of security should be ignored and the assets should be straight away classified as loss asset. It may be either written off or fully provided for by the bank (Reserve Bank of India master circular, 2001).

While commercial banks have faced difficulties over the years for a multitude of reasons, the major cause of serious financial problems continues to be directly related to credit standards for borrowers, poor portfolio risk management or lack of attention to changes in the economic circumstances and competitive climate (CBK Annual Supervision Report, 2000). The sheltering of weak institutions while liberalizing operational rules of the game is making implementation of operational changes difficult and ineffective. Changes required to tackle the NPA problem would have to span the entire gamut of judiciary, polity and the bureaucracy to be truly effective (Prashanth, 2002).

The problem of NPA is not mainly because of lack of strict prudential norms, but due to legal impediments, postponement of the problem by the banks to show higher returns and manipulation by the debtors using political influence (Reddy, 2002). Macro-factors that include real effective exchange rate and growth in real GDP affect the level of NPAs (Dash *et al.*, 2010). With regard to the bank specific variables, banks which charge relatively higher real interest rates and have a penchant for taking on risk, tends to experience greater non-performing loans. Gopalakrishnan, (2005) also classified the causes of NPA into political, economic, social and technological factors. Neglect of proper credit appraisal, lack of follow-up and supervision, recessionary pressures in economy, change in government policies, infrastructural bottlenecks, and diversion of funds etc are the major causes for NPA “ibid”. Other reasons for NPAs include improper selection of borrowers’ activities, weak credit appraisal system, industrial problems, inefficient management, slackness in credit management and monitoring, lack of proper follow-up, recessions, natural calamities and other uncertainties (Aggarwal *et al.*, 2012).

Espinoza et al (2010) emphasized that financial system shocks emanate from firm specific factors (idiosyncratic shocks) and from macroeconomic imbalances (systemic shocks). Fainstein (2011) classified reasons for NPA into macroeconomic, banking sector and also microeconomic level variables. There is a direct relationship between interest rate and NPA since an interest rate spread affect performing assets in banks as it increases the cost of loans charged on the borrowers and the regulations on interest rates have far reaching effects on assets non-performance, for such regulations determine the interest rate spread in banks and also help mitigate moral hazards incidental to NPAs according to Collins *et al.* (2011). Additional reasons for NPAs mentioned in various literatures are: Poor decision making, the bank is always aware of all the credit risks before lending and should strive to make accurate decisions. Such risks include: a) external risk elements as; competition, product subscription, entry barriers, seasonality of business, profile of the end users i.e. whether high income, middle income or low-income group, cyclicity of earnings etc. b) Internal risk elements as; financial, business, management and project risks.

The bank's failure to establish an appropriate credit risk environment such that, the board of directors lack responsibility for approving and periodically (at least annually) reviewing the credit risk strategy and significant credit risk policies of the bank may also lead to NPAs. Most banks do not operate within sound, well-defined credit granting criteria; neither do they maintain an appropriate credit administration, measurement and monitoring process. They lack adequate controls in credit risk and the bank credit officers and supervisors lack independence in conducting the evaluation of bank strategies, policies, procedures and practices related to the granting of the credit and ongoing management of the portfolio. Willful defaults, siphoning of funds, fraud, disputes, management disputes, mismanagement, misappropriation of funds etc. Lack of proper pre-appraisal and follow up, improper selection of borrowers/activities and inadequate working capital leading to operational issues also leads to NPAs. Under financing/untimely financing. Delay in completing the project and non-compliance of sanction terms and conditions. Poor debt management by the borrower, leading to financial crisis and excess capacities created on non-economic costs. Inabilities to raise capital through the issue of equity or other debt instrument from capital markets as well as business failures are other causes. Failures to identify problems in advance and diversion of funds for expansion/modernization/setting up new projects/helping or promoting sister concerns may also

lead to NPAs. Deficiencies on the part of the banks viz-a-viz; in credit appraisal, monitoring and follow-ups, delay in settlement of payments\subsidiaries by government bodies etc. Time involved in the legal process and realization of securities.

Horizon of maturity of credit, better credit culture, favorable macroeconomic and business conditions lead to lowering of NPAs (Ranjan *et al.* 2003). In its annual report (2011), CBK noted that one of the principal objectives of the Central Bank of Kenya as provided in the Central Bank of Kenya Act; section 4(2) is to foster liquidity, solvency and proper functioning of a stable market-based financial system. In this regard, the Bank Supervision Department (BSD) has been mandated to discharge this objective. It reflects the asset quality, credit risk and efficiency in the allocation of resources to the productive sectors.

Since the reform regime there have been various initiatives to contain growth of NPA to improve the asset quality of the banking sector (Ahmed, 2010). Commercial banks have envisaged the greatest renovation in their operation with the introduction of new concepts like income recognition, prudential accounting norms and capital adequacy ratio etc which have placed them in new platform. The growing competition from internal and external constituents and sluggish growth in economy coupled with poor credit-deposit ratio, the large volume of NPAs in the balance sheet and lack of automation and professionalization in the operation have been affecting the banking sector (Siraj *et al.*, 2012). Strengthening financial systems has been one of the central issues facing emerging markets and developing economies. This is because sound financial systems serve as an important channel for achieving economic growth through the mobilization of financial savings, putting them to productive use and transforming various risks “*ibid*”. The traditional approaches to bank regulation are not conducive for management of NPAs (Murinde *et al.*, 2004). These approaches emphasized the view that the existence of capital adequacy regulation plays a crucial role in the long-term financing and solvency position of banks, especially in helping the banks to avoid bankruptcies and their negative externalities on the financial system. In general, capital or net worth serves as a buffer against losses and failure. Rather than accommodating measures to combat the NPA issues, the traditional measures tried to protect the interests of depositors through maintaining adequate capital in liquid form. This has impacted on the availability of funds for productive purpose since banks were not able to lend it but rather forced to keep it as reserves.

The essential components of sound NPA management are quick identification of NPAs, their containment at a minimum level and ensuring minimum impact of NPAs on the financials (Borbora 2007). All kinds of lending involves three stages where discretion needs to be exercised; evaluation and assessment of the proposal ,timely monitoring and evaluation as well as proper assessment of exit decision and modality (Panta 2007). The extent of non-performing assets of banks has assumed a formidable proportion during the last decade and beyond, eating into hard earned profitability of the banks. This figure averaged 38 percent between the years 1990 to the year 2000 according to the Kenya Institute of Bankers Issue no.2 (2000). Currently the situation is not any better.

These events only bolster a growing belief that there was an urgent need to identify, quantify and manage the credit and other trade related risks in bank lending propositions. The challenge of credit risk has grown phenomenally during the last two decades against the backdrop of tremendous economic, political and technological changes in Kenya and around the world. The management of NPAs means planning, organizing and controlling the resources to achieve the goals i.e. reduce the NPAs to the minimum possible level to improve the corporate efficiency and profitability of a bank. The management of NPAs is a function of seven interrelated dimensions– strategy, structure, systems, skills, staff, style, and shared values. Strategy in relation to NPA management is the means to ends, and these ends concern the purpose and objectives of the organization. These ends are the things the businesses do, the paths they follow, and the decisions they take, in order to reach certain points and levels of success. It is the bridge between the present and the desired future (Thompson 2000 P9).

The Bank should always be sympathetic to the borrower and gain his faith, so that the borrower could reveal the truth. The borrower should see the banker as his helping friend (M.S.Phogat 2004). Sometimes cyclic business pressures create problems and the borrowers need genuine help from the bank. The bank must help the borrower and if, it feels that rescheduling of loan is required, it should be done in time. The banker must ensure that documents are valid and renewed in time. If soft treatment and help does not work, then some bitter treatment be given and the borrower be persuaded to bring funds, either upgrade the account or liquidate it. Negotiate with the party to repay a certain percentage of sales and if bound to fail, it is better to quit and compromise. It may be due to external factors beyond control of the borrower and the

bank. If soft measures will fail then the bank should try to enforce strict measures with full force. Convert hypothecation into pledge, start criminal proceedings wherever necessary, use all the legal means like attachment before judgment, enforcement of securities act, out-source services of recovery agent, obtain preliminary decree and proceed for confinement of the borrower as well as guarantor. At this stage the borrower must feel pressurized and keep tension in his mind 24 hours and pressure should be constant from all the corners till the account is settled. "ibid" has described this scenario using a model of strategic management of NPAs that covers all the elements involved in recovery of NPAs. It must keep into account the various aspects from the bank's angle and its strengths & weaknesses, its staff, systems, procedures & work culture of the bank in particular. It should also take care of the environment and lastly the borrower & guarantor, their strengths and weaknesses, culture, habits, values & goals.

Performance of bank due to non performing asset portfolios is the dependent variable. Asset portfolio becomes non-performing when it ceases to generate income for the bank (Alexander, 2006). It is defined as a credit facility in respect of which the interest and/or installment of principal has remained 'past due' for a specified period of time, usually after a period of more than 90 days. It has four stages namely: watch, sub-standard, doubtful and loss. It leads to different levels of profits, incomes and liquidity

The profitability of the bank ensures its going concern value. To assess earnings, the following parameter is used: Return on average assets (ROAA). This is the ratio of Profit before Tax (PBT) to the average of the total assets at the beginning and at the end of the year. This ratio is a measure of how well the bank's assets were utilized in realizing profits (Morgan, 2002). A higher ratio is desirable. If profits continue to grow much faster than asset growth, then the bank is utilizing its asset much better to generate profits. Income from non-performing asset portfolios are not recognized on accrual basis and are booked as income only when it is actually received. The banks are not allowed to charge and take to income account interest on any non-performing asset portfolios. The interest is suspended. A bank must be liquid enough to meet its day to day obligations to its customer. The objective of maintaining a certain liquidity ratio is to ensure that depositors are able to get their money as and when they require it. The CBK has a regulatory minimum of 20% on this ratio. A higher ratio implies a high level of liquidity. Every bank seeking to maintain its integrity in the market and continue in business must ensure that it always

has enough cash to pay its depositor. To assess liquidity, the following parameter is used: Net Loans to Total Deposits. A lower ratio is safer in this regard.

#### **2.4 Objective 1: Internal and External Factors on poor performance of commercial banks in Kenya.**

Objectives and goals are defined as “desired states or results linked to particular time scale and concerning such things as size or type of organization, the nature and variety of the areas of interest and levels of success Thompson (2001). Systems & procedures are policies and guidelines that the banks have put in place to ensure smooth running of the institution. They are meant to create checks and balances to prevent leakages and frauds and to cultivate sound business practices in an organization. Monitoring is a follow-up mechanism process of keeping constant watch and checks which starts right from sanction and before disbursement of the facility to the time the facility is fully repaid. Controls refer to the measures put in place by the owners of capital and managers to ensure that the organization is sound and safe in terms of security, finance, operations and management. The guidelines, measures and controls require that board of directors of banks put in place such committees as audit, risk, compliance and credit to help in discharging important financial functions which have had their impacts on the performance of banks due to non-performing asset portfolios.

The success and profitability of the bank depends on the conditions of the economy. This is the relationship between production, trade and money supply. The rate of inflation, interest rate volatility, foreign exchange rate fluctuations, taxation and law, the labour market conditions as well as government regulations and legislations are some of the economic influencers. Political stability is key to the success of any economy. It is an attraction to local and foreign investments. Negative political undertones may ruin businesses and interfere with loan repayments. Changes in technology in terms of machineries and equipments, information, computer science may intervene in the management of non-performing asset portfolios. Technology may improve corporate governance leading to improved productivity, efficiency and effectiveness. This directly impacts on the country’s economic development especially as the government withdraws from direct involvement in the economy and leaves the private sector as the main engine for growth.

There is more to corporate governance than simply adherence to a code of good conduct: it is the sine qua non for improving corporate productivity and performance (Eduardo, 2004). According to Hugh *et al.* (2009), high-risk lending practices are the result of “market participants’ desire to earn higher yields without an adequate appreciation of the risks and a failure to exercise due diligence. Corporate governance factors are related to favorable firm performance in terms of quality of revenue, return on assets, Tobin’s Q (the market value of assets over total assets) and bank specific accounting outcomes in terms of loan loss reserves, non-performing assets, and net charge-offs. The regulation of banks and financial institutions is important because of the significant role that these institutions play in the financial markets and negative repercussions that are experienced when the risk-taking of banks is not properly regulated “*ibid*”. Prior studies show that weak corporate governance was a key determinant of earnings mismanagement, fraudulent financial reporting, and an unethical corporate culture, which resulted in corporate scandals at Enron, WorldCom, Tyco, and others (Rezaee, 2008).

Corporate governance issues related to banks have been overlooked by prior research, which tends to focus on firms in the non-financial sector (Handley *et al.* 2001, Adams et al 2003). Furthermore, banks are considered by many to be extremely complex and opaque which may result in information asymmetries that intensify agency problems (Morgan, 2002). Notwithstanding, the economic relevance of banks and of corporate governance within banks, few empirical studies have specifically investigated the corporate governance structure of banks and its association with performance. Agency theory (Jensen, 1986) suggests that strong corporate governance leads to better firm performance and accounting outcomes. Typically, prior studies focus on one dimension of corporate governance (e.g., board independence) and examine its relationship with some outcome variable (e.g., stock return) or an accounting measure (e.g. total accruals). The exploratory principal component analysis by Larcker *et al.* (2007) provides a comprehensive methodology to measure corporate governance structure and offers empirical evidence about the associations between corporate governance, performance and accounting outcomes.

Regarding the relationship between corporate governance factors and commonly used firm performance measures, they find somewhat consistent results with prior research. In particular, presence of large block holder and large holdings by outside directors are shown to be positively

associated with firm performance and a larger, less independent board comprised of older directors, and anti-takeover provisions are negatively associated with firm performance. Recent events as the Enron scandal and other corporate governance failures including events that led to the recent financial crisis have made corporate governance a major topical issue. The failure of corporate governance in banks may therefore pose serious consequences for the banking sector and the economy as a whole (Caleb, 2011). It is also important to note that the health of the financial system largely depends on their capacity to identify and measure, monitor and control risks. Banks face a wide range of complex risks in their day to day operations, including risks relating to credit, liquidity, exposure concentration, market risks, settlement, and internal operations. The nature of banks' business, particularly the maturity mismatch between their assets and liabilities, their relatively high gearing and their reliance on creditor confidence creates particular vulnerabilities.

The consequences of mismanaging risks can therefore be very severe not only for the individual bank, but for the entire system. Poor corporate governance may contribute to bank failures, which in turn can pose significant costs on the treasury and can have other macroeconomic effects like contagion risks. Additionally poor corporate governance can lead to lose of confidence in the ability of banks to properly manage their assets and liabilities and this could in turn trigger a run on a bank or precipitate a liquidity crisis. Effective corporate governance is also crucial for banks since it enhances transparency and sound corporate governance is the foundation for effective risk management. The recent financial crisis has shown that the presence of a well regulated financial sector and properly run corporate entities is key to the prosperity of any economy (*ibid*). In particular, the 2008 banking crisis was caused in part by excessive exposure concentration, poor credit policies and inadequate management of credit risk. These risk management failures reflect a breakdown in corporate governance. They reflect poor management of key banking risks, and poor oversight by boards of the mechanisms for managing their banks. In some cases, a lack of independent directors on the boards of banks was also a significant factor in weakening the effectiveness of boards with poor quality financial disclosures and ineffective external audit.



A close examination of the failed banks identified the following weaknesses which were common in most of them; large credit exposures, lending to connected parties, poor or absence of a credit policy, incompetent management coupled with ineffective boards, foreign exchange exposures and an absence of or inadequate risk management frameworks. In other banks, the board chairman was also the majority shareholder and the chief executive of the bank. Such basic risk management failures to a large extent reflect a breakdown in corporate governance. In some instances, commercial banks and other financial institutions have approved decisions that are not vetted; there have been cases of loan defaults and non-performing loans, massive extension of credit and directed lending (Angela, 2010). Policies to minimize on the negative effects have focused on: mergers in banks and non bank financial institutions; better banking practices but stringent lending; review of laws to be in line with the global standards; well capitalized banks which are expected to be profitable; liquid banks that are able to meet the demands of their depositors; and maintenance of required cash levels with the central bank which means less cash is available for lending (Central Bank Annual Report, 2004).

Lending by banks has been highly politicized. It is common knowledge that in certain cases loans are given to various industrial houses not on commercial considerations and viability of project but on political considerations; some politician would ask the bank to extend the loan to a particular corporate and the bank would oblige. In normal circumstances, banks before extending any loan would make a thorough study of the actual need of the party concerned, the prospects of the business in which it is engaged, its track record, the quality of management and so on. Since this is not looked into, many of the loans become NPAs. The loans for the weaker sections of the society and the waiving of the loans to farmers are another dimension of the politicization of bank lending. Most of the depositor's money has been frittered away by the banks at the instance of politicians, while the same depositors are being made to pay through taxes to cover the losses of the bank.

Literature on this subject such as those from Angela (2010), Caleb (2011) and Larcker *et al.* (2007) were not specific on internal factors contributing to poor performance of commercial banks. Information on the same among commercial banks in Kenya is lacking.

## **2.5 Objective 2: Effect of asset quality, capital adequacy and efficiency on total income due to non-performing asset portfolios**

Kundu (2010) conducted a research survey in different countries looking at the problem of having non-performing assets, the reasons for mounting of non-performing assets and the practices present in other countries for dealing with non-performing assets and came up with the findings that in China, the State Owned Enterprises (SOE's) believe that the government will bail them out in case of trouble and so they continue to take high risks and have not really strived to achieve profitability and to improve operational efficiency. Political and social implications of restructuring big SOE's force the government to keep them afloat and Banks are reluctant to lend to the private enterprises because while an NPA of an SOE is financially undesirable, an NPA of a private enterprise is both financially and politically undesirable. The courts are not reliable enforcement vehicles.

In Korea, protracted periods of interest rate control and selective credit allocations gave rise to an inefficient distribution of funds and lack of monitoring. Banks relied on collaterals and guarantees in the allocation of credit, and little attention was paid to earnings performance and cash flows. In Japan, investment was made real estate at high prices during the boom. The recession caused prices to crash and turned a lot of these loans bad, legal mechanisms to dispose bad loans were time consuming and expensive and NPAs remained on the balance sheet, expansionary fiscal policy measures administered to stimulate the economy supported industrial sectors like construction and real estate, which further exacerbated the problem, weak corporate governance coupled with a no-bankruptcy doctrine, inadequate accounting systems. In Pakistan, culture of "zero equity" projects where there was minimal due diligence was done by banks in giving loans coupled with collusive lending and poor corporate governance, poor entrepreneurship, chronic over-capacity/lack of competitive advantage, directed lending where the senior management of the public sector banks gave loans to political heavy weights/ military commanders. In conclusion Kundu (2010) observed that, owners of funds do not receive a market return on their capital. In the worst case, if the bank fails, owners lose their assets.

Caleb (2011, April 27), in his works on Corporate Governance and its Impact on Financial Institution observed that although the financial sector was not adversely affected by the crisis in a direct fashion, over the period 1995–2000, the sector experienced numerous episodes of bank failures that have had adverse effects on the confidence in the financial system. A total of ten banks were closed during this period in Zambia and a major weakness noted in all the failures were the weak governance structures and practices in the banks. The conclusion was that the failure of corporate governance in banks may therefore pose serious consequences for the banking sector and the economy as a whole. One of the most important studies in this area was done by Thomson, et al (2006) in Australia on Corporate governance failure and its impact on National Australia Bank's performance. The research was conducted on The National Australia Bank (NAB), the largest financial services institution listed on the Australian stock exchange and is within the 30 most profitable financial services organization in the world. In January 2004, the bank disclosed to the public that it had identified losses relating to unauthorized trading in foreign currency options amounting to AUD360million. This foreign exchange debacle was classified as operational risk, the risk of loss resulting from inadequate or failed processes, people, or systems and reiterated the importance of corporate governance for banks.

Kabigting, et al (2011), while writing on corporate governance among banks listed in the Philippine Stock Exchange observed that, Philippine banks were able to minimize the impact of 2008 global financial crisis since they already had the reforms on corporate governance. These reforms were instituted after the 1997 Asian financial crisis. They established the relationships of bank size, age, and non performing loan ratio, earnings per share, return on average assets, and return on average equity with corporate governance. Asian central banks initiated corporate governance reforms among banks as an aftermath of the 1997 Asian Financial crisis. By 2008, when the global financial crisis set in, corporate governance reforms already in place among Philippine banks provided safety nets which minimized falling asset prices and losses. In 2008, the global financial crisis sent banks and investment banks either declaring bankruptcy or being bailed out. For the Philippine banking system, the Bangko Sentral ng Pilipinas (BSP) reported that only the banks with collateralized debt obligations were affected by the crisis and none collapsed as a result of the crisis. After the 1997 Asian Financial Crisis, Asian banks adopted reforms particularly on corporate governance. Initially, there was resistance to corporate governance since banks in Asia are owned by taipans or families. Eventually, banks adopted

lending practices and principles of corporate governance. These included transparency, accountability, fairness/equity, risk management, independent board of directors. These corporate governance practices cushioned the impact of the global financial crisis for Philippine banks.

Their findings showed that corporate governance has significant relationship with return on assets (ROA), bank size and earnings per share (EPS). Both bank size and ROA are positively related while EPS and ROE are negatively related to corporate governance. Philippine banks were minimally affected by the Global Financial Crisis in 2008 since they have corporate governance structures in place. The findings showed that the presence of independent directors in the board suggests effectiveness in increasing disclosure, transparency, enhancing corporate governance. Also, the reduction of non-performing loans ratios over the years since the 1997 Asian Financial Crisis showed that banks monitor the quality of their loans, disposing of the non performing assets through special asset vehicles. Philippine banks are cautious about lending and exposures to risky assets which is why they were minimally affected by the Global financial crisis. Although ownership of Philippine banks is still largely concentrated, it is not a deterrent against improving corporate governance which resulted to higher profitability. With greater transparency demanded of them, Philippine banks focus more on coming up with client friendly products and services instead of simply increasing their asset size just to be the biggest but without concern for good corporate governance.

Rezaee (2008), explored Corporate Governance and Performance from US and found that prior studies show that weak corporate governance was a key determinant of earnings mismanagement, fraudulent financial reporting, and an unethical corporate culture, which resulted in corporate scandals at Enron, WorldCom, Tyco, and others. The Sarbanes-Oxley Act (SOX) of 2002 was enacted by U.S. congress to reinforce corporate accountability for financial reports and to restore investor confidence in financial markets.

The studies above, Kabigting, et al (2011) Adebolaa *et al.*(2011) Rezaee (2008) Caleb (2011), Kundu (2010) concentrated on determinants of NPAs, corporate governance and earnings management, corporate governance reforms and performance of banks, reasons for NPAs and

consequences of NPAs. They were not specific on effect of asset quality, capital adequacy and efficiency on total income due to non-performing asset portfolios. Information on the same is lacking among commercial banks in Kenya.

### **2.6. Objective 3: Effect of asset quality, capital adequacy and efficiency on liquidity due to non-performing asset portfolios**

Abel (2011) examined the asset quality and identified the major determinants of bank asset quality in an era of regulation-induced industry consolidation, in a case study on Nigerian banking sector. The study selected panel data from 19 out of a total of 25 banks operating in Nigeria. A multivariate constant coefficient regression model is adopted as the estimation technique. Based on the analysis, it is found that deterioration in asset quality and increased credit crisis in the Nigerian banking industry between the periods 2004 and 2008 were exacerbated by the inability of banks to optimally use their huge asset capacity to enhance their earnings profiles. The results showed excess liquidity syndrome and relatively huge capital bases fueled reckless lending by banks; and that increase in the level of unsecured credits in banks' portfolios ironically helped to mitigate the level of NPA.

Nkusu (2011) examined the link between NPA and macroeconomic performance using a sample of 26 advanced countries that spans the period from 1998 to 2009. The study addressed two empirical questions on the NPA and macro financial vulnerabilities: the question of the determinants of the NPA and that of the interactions between the NPA and economic performance. The analysis showed that provisioning for bad loans can make a difference on banks' ability to withstand adverse shocks to the quality of their loan portfolio and their ability to continue lending after such shocks. The study recommended that even though NPA remain a permanent feature of banks' balance sheets, policies and reforms should be geared to avoiding sharp increases that set into motion the adverse feedback loop between macroeconomic and financial shocks. In this regard, preventing excessive risk-taking during upturns through adequate macro prudential regulations is the first best.

Olweny and Shipho (2011) examined the impact of bank-specific factors like capital adequacy, asset quality, liquidity, and operational cost efficiency and income diversification on the

profitability of commercial banks in Kenya. The study used financial statements of 38 Kenyan banks for the period 2002-2008 and applied regression method to evaluate the objectives. The results of the study showed that all bank specific factors had a statistically significant impact on profitability, while none of the market factors had a significant impact. Based on the findings of the study, the authors recommended policies that would encourage revenue diversification, reduce operational costs, minimize credit risk and encourage banks to minimize their liquidity holdings.

Zeng (2012) applied a dynamic mode l to study the NPA of banks in China. The author attempted to find: 1) the Hamiltonian multiplier of the bank NPA growth rate in the model which expresses the rate of change in NPA over time with respect to the NPAs, 2) a model that demonstrates the equilibrium value of the saddle point of the bank NPA; 3) a model explaining the NPA phenomenon in the Chinese banking system-mainly the state owned banks. 4) A test of hypothesis: the equilibrium value of the bank NPLs is dependent on micro-economic factors under the circumstances of macro-economic factors. The results of the study identified a significant decline in NPA of state owned banks, mainly due to the setting up of AMCs, implementation of new policies, etc. The results of the study also stressed the need to strengthen banks' internal management system.

In an analytical study, Klein (2013) investigated the significant linkages between macroeconomic conditions, bank specific factors on incidence for NPA, with special focus on Central, Eastern and South-Eastern Europe in the period of 1998–2011. The panel VAR analysis broadly confirms the existence of strong macro-financial linkages. In particular, the impulse response functions revealed that a positive shock to GDP growth and credit (as a ratio of GDP) contributes to the reduction of NPA while a higher inflation leads to higher NPAs. In addition, other things being equal, a positive shock (increase) to NPA ratio leads to a contraction of credit-to- GDP ratio and real GDP and to a higher unemployment rate.

Bactra, (2003), at the third Forum on Asian Insolvency Reform, Seoul, Korea reported that the most important business implication of the NPAs is that it leads to the credit risk management assuming priority over other aspects of bank's functioning. The bank's whole machinery would thus be pre-occupied with recovery procedures rather than concentrating on expanding business.

He made the following observations and findings: The ultimate impact of the actions put forward by both the Reserve Bank of India (RBI) and Government of India, will be reflective of the degree of effective enforcement by the regulators themselves. He concluded that till recent past, corporate borrowers even after defaulting continuously never had any real fear of bank taking any action to recover their dues despite the fact that their entire assets were hypothecated to the banks.

Yadav (2011), writing a journal on the Impact of Non Performing Assets on Profitability and Productivity of Public Sector Banks in India, in his findings stated that higher NPAs engage banking staff on recovery measures that includes filing suits to recover loan amounts instead of devoting time for planning to mobilization of funds. Thus NPAs impact the performance and profitability of banks. The most notable impact of NPAs is change in banker's sentiments which may hinder credit expansion to productive purpose. Banks may incline towards more risk-free investments to avoid and reduce riskiness, which is not conducive for the growth of economy.

Sethi et al (2007), in their findings in India explained thus, Banks cannot credit income to their profit and loss account to the debit of loan account unless recovery thereof takes place in a case of NPA account. Interest or other charges already debited but not recovered have to be provided for and provision on the amount of gross NPAs made. All the loan accounts of the borrower would be treated as NPA, if one account is NPA. The Reserve Bank of India (2001) in its Master Circular to all commercial banks implored that it is difficult to envisage a situation where only one facility to a borrower becomes a problem credit and not others. Therefore, all the facilities granted by a bank to a borrower will have to be treated as NPA and not the particular facility or part therefore which has become irregular.

Tracey *et al.* (2011) observed on International Monetary Fund (IMF) working paper that the basis of sound credit risk management is the identification of the existing and potential risks inherent in lending activities. The stability of banking sector is determined on the basis of its performance and quality of assets. A higher NPA force banks to invest in risk-free investments, thus directly affect the flow of funds for productive purpose. Issues relating to NPAs affect all sectors with the most serious impact on financial institutions, which tend to own large portfolios, indirectly; the customers of these financial intermediaries are also implicated; deposit holders,

share holders and so forth. NPAs means unsettled loans for which banks have to incur financial losses and the cost for recovering NPAs is considerably high. The foregoing literature by Tracey *et al.* (2011), Sethi *et al.* (2007), Bactra (2003), Klein (2013), Zeng (2012) and Abel (2011) have investigated what underlies NPAs and the general contribution of NPA to performance of banks. They were not specific on effect of asset quality, capital adequacy and efficiency on liquidity of banks due to non-performing asset portfolios. No information is available on the same among commercial banks in Kenya.

#### **2.7. Objective 4: Effect of asset quality, capital adequacy and efficiency on profitability due to non-performing asset portfolios.**

Bloem *et al.* (2001) on IMF Working Paper, statistics department, remarked that issues relating to NPA affect all sectors (in particular if parallel issues with defaulting trade credit is also considered). There are banking failures due to poor asset quality, low ratio of capital adequacy and inefficiency on account of mounting NPAs hence affecting the profitability and long run survival of the banks.

Karunakar *et al.* (2008) writing a journal from India, in their findings explain that, NPAs result in deleterious impact on the return on assets such that interest income of banks will fall and it is to be accounted only on receipt basis, banks profitability is affected adversely because of the provision of doubtful debts and consequent write off as bad debts, return on Investment (ROI) is reduced. The provisions are specific to the individual loans. This ratio therefore measures how far the provisions are covered by the bank's operating income. If the provisions suck up the entire operating income, then the bank is in trouble and is likely to be struggling for survival. The ratio of NPL provisions to operating income should be reviewed in relation to the bank's current and future earning positions. This ratio measures a bank asset quality "ibid". These provisions which are due to poor asset quality, inefficiency negatively impact on the profitability of the banks.

Adebolaa *et al.* (2011) examined the determinants of the NPA in Islamic banking in Malaysia for the period 2007 to 2009. The authors utilized the ratio of NPA to the total financing in Islamic banks to measure the extent of the NPA in Malaysia. The study employed ARDL of Pesaran *et*



*al.* (2001) to examine the effects of some macroeconomic variables which include industrial production index, interest rate and producer price index. The results of the study indicated two long run relationships among the variables and noted that the interest rate has significant positive long run impact on NPA and hence bank performance. Industrial production index turns out with a positive but an insignificant sign. The results reflected the popular belief that the Islamic banking system in Malaysia is not fully motivated by profit and loss mechanism, as the impact of interest rate is stronger relative to productivity. The producer price index appeared to have a negative and significant impact on NPA.

Onuko, Muganda and Osiega, (2015) studied effect of credit risk management on loan portfolio Quality of Tier One commercial banks in Kenya. The study used loan pricing as the independent variable while loan portfolio quality as the dependent variable. The quality of the loan portfolio was measured by use of Non-performing Assets (NPA's). The study employed descriptive research design. Five tier one commercial banks in Kenya were analyzed. Financial reports for the five banks were analyzed between the years 2009 - 2013. A sample of 35 was obtained through purposive sampling technique. Data was collected through both primary and secondary methods. Data was analyzed by use of descriptive statistics and further by use of regression model run on Statistical Package for Social Sciences (SPSS) version 20. The findings indicated loan pricing had significant positive effect on the level of NPA and it accounted for 57.4% change in level of NPA. It is therefore recommended that financial institutions charge affordable interest rates that will attract more creditors hence increasing their revenue from interest earned. Further studies should be carried out on other factors not included in this study such as loan exposure limits.

Mileris (2015) analyzes the impact of the country's economic downturn on banks' loan portfolio profitability. The Lithuanian economic downturn in 2009–2010 negatively affected the banks' debtors' abilities to repay their debts increasing the proportion of non - performing loans (NPLs) and reducing the banks' loan portfolio. Also the changes in the interbank interest rates and credit margins had the impact on the banks' interest income and expenses. The statistical analysis techniques allowed to characterize the dependence between macroeconomic indicators and the bank's loan portfolio profitability. Afterwards the factorial regression model was developed to predict the Lithuanian commercial banks' loan portfolio to GDP ratio according to

the country's macroeconomic indicators. To assess the consistent patterns of loan portfolio profitability that are typical for the banking systems, the macroeconomic and banks' data of other EU countries was analyzed. Because the proportion of non-performing loans in banks is one of the main factors of their loan portfolio profitability, the association rules network was developed to visualize the dependence between NPLs and macroeconomic indicators. The analysis results affirmed the high sensitivity of NPLs ratio to the economic downturn in the EU countries with the imperfect macroeconomic indicators. It follows that banks in these countries assessing the credit risk of loan applicants must consider the possible changes in the macro economy, because they have the significant impact on banks' loan portfolio profitability in future periods.

Olweny and Shipho (2011), Zeng (2012), Bloem *et al.* (2001), Mileris (2015), Onuko, Muganda and Osiega, (2015), Klein (2013) studied economic downturn and loan portfolio, trends of NPAs, bank specific factors and profitability, determinants of bank asset portfolio and determinants of NPAs in Islamic Banking. The studies did not exactly look at the effect of asset quality, capital adequacy and efficiency on profitability. Specifically information is lacking on the same among commercial banks in Kenya due to NPAs.

In conclusion, the above studies reveal that no clear research work has fully addressed the effect of corporate governance on the performance of commercial banks due to non-performing asset portfolios. The studies have further revealed that more research is desirable as NPAs remain a permanent feature in the balance sheet of the bank owing to the growing changes in micro and macro environment. The study sought to determine the effect of corporate governance on the performance of banks due to non-performing asset portfolios, a case of commercial banks in Kenya.

## **CHAPTER THREE**

### **METHODOLOGY**

This chapter provides the methodology the study adopted. It highlights the overall research paradigm and design that guided the study. It covers research design, area of study, population, sample and sampling design, data and data collection procedure and; data analysis and presentation. It also presents results of pretesting for reliability

#### **3.1 Research Design**

This study was guided by quantitative paradigm, since it was based on testing of a theory, was composed of variables, measured with numbers, and analyzed with statistical procedures, in order to determine whether the predictive generalizations of the theory held true (Cresswell, 2003). This study adopted panel least squares data analysis. The design was expected to test the hypotheses and meet the objectives of the study. According to MacManus 2011, panel data are a type of longitudinal data, or data collected at different points in time and is most suitable in a research aimed at data on organizations and firms at different time points and determining its extent. The advantage of a panel least square is emphasized in its more accurate inference of model parameters. Least squares approach helped determine analysis of non stationery time series and provide micro foundations for aggregate data analysis (Heckman, J. J, 1981).

#### **3.2 Study Area**

The study area was Kenya. The study covered all the banks in Kenya. The banks have their headquarters and branches geographically spread all over Kenya. Kenya is a country in East Africa lying in the latitudes and longitudes of 4°N and 4°S and 34° E and 42°E as shown in the map in appendix IV. In Kenya, lack of stringent corporate governance has had serious effect on the performance of banks due to non- performing asset portfolios and therefore the need for this study.

#### **3.3 Study Population**

The target population comprised of heads of credit from 43 commercial banks operating in Kenya between 2005 to 2012 as follows: Kenya Commercial Bank, Equity Bank Ltd ,

Cooperative Bank of Kenya , Barclays Bank of Kenya , Standard Chartered Bank, Citibank NA, Commercial Bank of Africa, Diamond Trust Bank, National Bank of Kenya, National Industrial Credit, CFC Stanbic, Investment & Mortgage, Imperial Bank Kenya, Chase Bank (Kenya), Bank of Africa , Housing Finance Company of Kenya , Bank of Baroda (K) Ltd , Credit Bank, Development Bank of Kenya , Giro Commercial Bank, Guardian, Middle East, Paramount and Trans National Bank Kenya.

### 3.4 Sampling Technique

Simple random sampling was used to select the banks for the study from the total number of banks. Simple random sampling technique was considered as suitable because it gives all the banks a chance to be selected for this study. It is unbiased surveying technique. A sample size of 24 heads of credit, representing 56% of the target population (Table 3. 1) was used. The study considered senior managers of the selected banks totaling to 24 as the respondents. This was consistent with Lai (2011) who argued that at least 20 firms in any industry in a year are adequate to provide sufficient observations for estimation purposes. This sample size was determined using the formula as indicated below:

$$S = \frac{n}{1} + \left(\frac{n}{N}\right)$$

Source: Chava *et al.*, 1996.

Where, N= Target population

S= Sample Size

$$n = Z * Z(P(1 - P)/(D * D))$$

P= True proportion of factor in the population, or the expected frequency value

D= Maximum difference between the sample mean and the population mean, or expected frequency value minus (-) worst acceptable value

Z= Area under normal curve corresponding to the desired confidence level

Hence; Z= 95%/1.960, N=43, P= 4%, D= 5%

Calculation;  $n = 1.96 * 1.96(0.04(1-0.04))/(0.05*0.05) = 3.816(15.36) = 58.6$

$$S = \frac{58.6}{1 + \left(\frac{58.6}{43}\right)} = \frac{58.6}{2.4} = 24$$

The formula assumes a margin precision of 0.5 and a confidence of 95% (Chava *et al.*, 1996).

**Table 3.1 Sample Distribution**

	Total Population(N)	Sample(S)
Banks/Heads of Credit	43	24
Total	43	24

**Source: Adapted from CBK (2014)**

A sample size of 24 banks was sufficient as it was consistent with Lai (2011) who argued that at least 20 firms in any industry in a year are adequate to provide sufficient observations for estimation purposes.

### **3.5 Data Collection**

#### **3.5.1 Data Type and Source**

The study used both primary and secondary data. Primary data was collected from original sources which in this case were the heads of credit. Secondary data was obtained from text books, journals, periodicals, magazines, libraries, internet services, banks' financial statements.

#### **3.5.2 Data Collection Instrument**

The questionnaires are commonly used to obtain important information about the population. Each item in the questionnaire was developed to address specific objective (Mugenda, 1999). Interview method was also used. Personal or face to face and telephone interviews were conducted. An interview schedule of the banking institutions and the bank contact persons were prepared based on the objectives of the research and were administered by the interviewer. An interview schedule makes it possible to obtain data required to meet specific objectives of the study (Mugenda, 1999).

#### **3.5.3 Reliability of Data Collection Instrument**

Pretesting was conducted for reliability. Reliability refers to the extent to which an experiment, test, or any measuring procedure yields the same results on repeated trials. Reliability test was aimed at determining consistency and stability. Since there is little published guidance

concerning how large a pilot study should be (Melody Hertzog, 2008), pilot test was conducted on 10 heads of credit from the commercial banks. This group was not included in the main study. The responses for the pilot test are presented in table 3.2 below:

**Table 3.2: Pilot test response Received from Target Respondents**

<b>Bank</b>	<b>Expected Number</b>	<b>Actual umber</b>	<b>Percentage</b>
Bank 1	1	1	100%
Bank 2	1	1	100%
Bank 3	1	1	100%
Bank 4	1	1	100%
Bank 5	1	1	100%
Bank 6	1	1	100%
Bank 7	1	1	100%
Bank 8	1	1	100%
Bank 9	1	1	100%
Bank 10	1	1	100%
<b>Total</b>	<b>10</b>	<b>10</b>	<b>100%</b>

**Source: Pilot Survey Data (2014)**

The ideal was to test stability by administering the instrument to the pilot survey respondents twice. However it was difficult to do this when dealing with senior executives like in this study (Sekaran, 2000). Therefore to check the reliability of the instrument in this study, Cronbach's Alpha was used (Cronbach, 1951). According to suggestions by Hair et al (1998), the study found it acceptable a reliability coefficient above 0.6. The instrument was found reliable at Cronbach's alpha of 0.65. Consequently the instrument was accepted as reliable.

### **3.5.4 Validity of Data Collection Instrument**

Data collection instrument was exposed to subject and research experts who included the supervisors, to critique for clarity and ability to collect intended data.

### 3.6 Data Analysis and Presentation

Measures used were percentages, means and averages. Since the study was focusing on relationship between variables, bivariate analysis was done using Pearson correlation techniques (O'Connor, 2011) and least square analysis. Objective 1 was analyzed using descriptive statistics. Objective 2 to 4 were analyzed using panel least square data analysis. The results are presented in tables and charts.

#### Least Square Model Specification

$$y = f(\text{Asset Quality, Capital Adequacy, Efficiency, } \varepsilon)$$

$$y_{it} = +bx_{it} + \epsilon_{it} \dots \dots \dots 1$$

$$y_1 = \alpha + a_1x_1 + a_2x_2 + a_3x_3 + \varepsilon_1$$

$$y_2 = \alpha + a_1x_1 + a_2x_2 + a_3x_3 + \varepsilon_3$$

$$y_3 = \alpha + a_1x_1 + a_2x_2 + a_3x_3 + \varepsilon_3$$

Where;

Asset Quality =  $x_1$ ; Capital Adequacy =  $x_2$ ; Efficiency =  $x_3$ ; Profitability =  $y_1$ ; Total Income =  $y_2$ ; Liquidity =  $y_3$ ;  $\varepsilon$  = Error margin.

## **CHAPTER FOUR**

### **RESULTS AND DISCUSSIONS**

The chapter analyses data collected from 24 out of 43 commercial banks in Kenya. It analyses data from both primary and secondary sources. The data is presented using tables.

#### **4.1 Description of Respondents**

Respondents were drawn from 24 banking institutions and data generated in this respect is presented below.

##### **4.1.1: Age and Gender of Respondents**

Appendix X shows that most of the respondents of either gender were aged between 26-33years. The male respondents were 88.9% while the female respondents were 83.3% aged between 26-33years. Those aged between 18-25 years were only 11.1% male, while there were no females under this age bracket. Respondents aged above 34 years were only 16.7% female, with no male under this age bracket. The results here show that most NPA managers are male and young. The results here are consistent with those of Kabigting et al (2011) who studied banks in Philippines and found his respondents were mainly young males. Yadav (2011), in his study among Indian banks also found similar results.

##### **4.1.2 Education level of Respondents**

Appendix XI shows that all the respondents had tertiary education. This means that the respondents had gone beyond primary and secondary levels of education. These results conform to results on banks by Yadav (2011) and those of Rezaee (2008) on US firms.

##### **4.1.2 Employment Department of Respondents**

The inquiry also wanted to ascertain the department the research participant had worked in the banking sector.



Appendix XII shows that 41.7% have worked in Credit Risk, 25% had worked in operations, and 16.7% in Audit, 16.7% had worked in all the above departments combined. The results imply that the NPA managers had experience in various areas of the banks' operations. These results agree with those by Thomson et al. (2006) from Australian Banks and those by Sethi et al. (2007) from Indian Banks.

## **4.2 Results for objectives**

### **4.2.1 Objective 1: Factors contributing to poor performance of commercial banks in Kenya**

The study sought to establish factors contributing to poor performance of commercial banks in Kenya.

The results are as in Appendix xiii.

In determining what leads to poor performance of commercial banks, the results in table 4.4 show that poor lending contributes at 41.7% to NPAs while mismanagement, customers' unwillingness to repay and the three jointly, contribute to NPAs at 12.5%, 16.7% and 29.2% respectively.

This means that poor lending contributes highest to incidence NPAs while mismanagement of the bank affairs contributes least to NPAs. These results agree with those of Collins *et al.* (2011) who cited decision making as a factor but disagree with those of Aggrawal *et al.* (2012) and Gopalakrishnan (2005) who found other factors such as politics, natural calamities and social conditions.

### **4.3 Analysis for objectives 2 to 4: Effect of Corporate Governance on performance of banks due to NPAs**

Objectives two to four of this study sought to establish the relationship between corporate governance and total income, liquidity and profitability of the banks due to non performing asset portfolios. In order to address the objectives adequately, the study analyzed Asset quality, capital adequacy and efficiency first. The model adopted for analysis was as below:

$$y = f(\text{Asset Quality, Capital Adequacy, Efficiency, } \varepsilon)$$

$$y_{it} = +bx_{it} + \epsilon_{it}$$

Where;

Asset Quality =  $x_1$ ; Capital Adequacy =  $x_2$ ; Efficiency =  $x_3$ ; Profitability =  $y_1$ ; Total Income =  $y_2$   
; Liquidity =  $y_3$ ; Error margin =  $\varepsilon$

The study used multivariate analysis to explain how asset quality, capital adequacy and efficiency as elements of corporate governance may affect profitability, total incomes and liquidity of banks due to poor corporate governance measures in place. The Independent variables denoted by  $x_1, x_2, x_3$  define corporate governance measures in place whereas  $y$  is the dependent variable caused by NPAs due to corporate governance measures.

#### **4.3.1 Asset Quality analysis:**

The period for evaluating impact of asset quality on profitability, incomes and liquidity of commercial banks in Kenya in this study ranges from 2005 – 2012. The data is collected from various sources such as annual reports of banks and their websites. In order to have a comprehensive view, the movement of each ratio covered by asset quality, profitability, incomes and liquidity ratios are calculated. Moreover multiple regressions have been employed to measure the degree of impact of asset quality on profitability, incomes and liquidity of banks under study. Mean of profitability, total incomes and liquidity ratios are taken as dependent variable and various asset quality ratios have been taken as independent variable.

Asset quality is an important issue for a bank to prevent the bank from going bankrupt. If the banks have more risky assets on their balance sheet, then the capital will be lower implying greater credit risk exposure. The ability of management to identify, measure, monitor and control credit risk is also reflected here. The quality of assets is an important parameter to gauge the strength of the bank. The ratio Loan Loss Provision to Operating Income measures to what extent the operating income is weighted down by the provisions set aside for Non-Performing Loans. The lower this ratio is the better. The Central Bank of Kenya continues to enforce strict compliance when it comes to provisioning. The ratio Net Non-Performing Loans to Total Loans

indicates banks aggressiveness in lending and its credit risk. It is an indication of whether the loan book is non-performing and to what extent. This shows whether or not a bank has been lending prudently. When this ratio is lower it means the bank is doing well and vice-versa if the ratio is higher.

Appendix III shows loan loss provision to operating income for the period 2005 to 2012 for 24 out of 43 commercial banks operating in Kenya. It shows that in the year 2005, NBK had the highest loan loss provision to operating income ratio at 303.78% and Standard and Chartered bank the lowest at 5.12%. In the year 2006, NBK at 298.03% had the highest loan loss provision to operating income ratio with I & M having the least at 3.87%. In the year 2007, Guardian at 159.11% had the highest loan loss provision to operating income with I & M bank at 3% having the least. In the year 2008, Guardian at 120.46% had the highest loan loss provision to operating income with Citibank at 2.76% having the least.

In the year 2009, Guardian at 90.34% had the highest loan loss provision to operating income ratio followed with Citibank at 2.79% having the lowest. In the year 2010, Guardian at 83.39% had the highest loan loss provision to operating income ratio with BOA at 2.77% having the least. In the year 2011, DBK at 59.79% had the highest loan loss provision to operating income ratio with Citibank at 2.03% having the least. In the year 2012, DBK at 101.11% had the highest loan loss provision to operating income ratio with Citibank at 1.47% having the least.

It can be observed that most banks report progress in the management of their asset quality book due to enhanced co-operate governance. The table shows clearly that the asset quality of the banking industry was at its worst in 2005. The same has been improving gradually due to improved co-operate governance measures and in the year 2012, asset quality had greatly improved. A lower asset quality ratio is preferable. It shows that the bank makes less provision in her books and therefore retains higher incomes. From the above table the best performing banks during 2005-2012 in terms of asset quality were: Equity bank, Stachart bank, Citibank, DTB, I& M, BOA and TNBK at 1%. The second best performers in terms of asset quality were: CFC Stanbic, IBK and Chase bank at 2%. Barclays bank, CBA, Baroda and Paramount were at 3%. NIC, Credit bank and Middle East bank were at 4%. At 5% were Giro Bank and KCB. HFCK was at 6%, while DBK was at 7%. Coop bank had asset quality of 8%. NBK and Guardian Bank

were the worst performing banks in asset quality at 15% and 17% respectively, implying most of their incomes were eaten by provisions. These results agree with results by Nkusu (2011), Zeng (2012) and Onuko, Muganda and Osiega (2015). However the results differ from those by Adebolaa *et al.* (2011).

#### **4.3.2 Capital Adequacy analysis:**

The banks aim at measuring bank's capital sufficiency in relation to its liabilities. The Core Capital to Total Deposits ratio is a measure of capital adequacy. The rule of the thumb is that bank's should progressively convert some of their earnings into capital to cover any liabilities that may occur in the future. For banks with limited earnings strategic decisions should be taken to ensure capital adequacy. The Central Bank of Kenya stipulates that banks must maintain a core capital of not less than 8% of the total deposits. The ratio Core Capital to Total Risk Weighted Assets also measures capital adequacy. Total Risk Weighted Assets comprise the total value of the different assets categories weighted by their level of risk based on CBK guidelines. A higher ratio is desirable. The statutory minimum ratio is 12%. Appendix IV represent core capital to total deposits as a measure of capital adequacy for the period 2005 to 2012 for 24 out of 43 commercial banks operating in Kenya. It shows that all the banks studied, regardless of their tiers achieved their capital adequacy requirement for all the years from 2005-2012, except in fewer instances. NBK, TNBK, Paramount, Middle East, Guardian, Giro Commercial, Credit bank, DBK, BOB, Imperial, I & M, NIC, Citibank, Stanchart and BBK, all achieved their capital adequacy requirements from 2005-2012. Coop bank did not achieve its capital adequacy requirement in 2005, 2006 and 2007. During the three years period, the capital adequacy requirement of Coop bank stood at 6.86%, 7.48% and 7.96% respectively. From the year 2008 – 2012, Coop bank had a capital adequacy requirement of above 8%. KCB's capital adequacy requirement was higher from 2005 -2012, except in 2008 when it registered a low of 7.93%. Equity bank also had its capital adequacy requirement lower in 2007 at 6.98% but higher during the rest of the years from 2005-2012. Capital adequacy for CBA was at 6.78% in 2005, 6.51% in 2006, 7.72% in 2008, 7.54% in 2010, but higher in 2009, 2011 and 2012.

These results are consistent with those by Olweny and Shipho (2011), Mileris (2005) and Alexander (2006) but differ from those by Siraj *et al.* (2012).

### **4.3.3 Efficiency Ratio analysis:**

This is the ratio of Operating expenses to Total Net Operating Income, also known as Cost Income Ratio. It is a measure of how efficiently the bank is utilizing its resources to generate income. An efficient bank is a promising one because shareholders can expect higher returns in the future. A lower ratio is desirable.

Appendix V represents cost income ratio for the period 2005 to 2012 for 24 out of 43 commercial banks operating in Kenya. It shows that Equity Bank had a higher income cost ratio in the year 2005 at 68.91% compared to 2006, 2009, 2007, 2008, 2010, 2011 and 2012 when the ratios were 63.34%, 60.16%, 59.84%, 52.34%, 51%, 46.67% and 45.30% respectively. In the year 2006, BOA had the highest cost income ratio in the entire industry of 94.24% followed by Credit bank at 83.76%, HFCK at 71.36%, TNBK at 68.99% and Giro commercial bank at 68.34%. NBK had the least at 39.4% followed by I & M at 41.23%. The cost income ratio of other banks were: KCB at 64.64%, Equity bank at 63.34%, Coop bank at 61.25%, CBA at 54.32%, BBK at 51.36%, Stanchart at 45.52%, Citibank at 44.2%, DTB at 50.99%, NIC at 59.12%, CFC Stanbic at 51.2%, Imperial at 58.46%, Chase bank at 62.67%, BOB at 47.25%, DBK at 57.29%, Guardian at 57.44%, Paramount at 58.02% and Middle East at 65.11%. In the year 2007, HFCK had the highest cost income ratio in the entire industry of 78.13% followed by BOA at 76.45% and TNBK at 72.21%. I & M had the least at 39.77% followed by BOB at 39.9%. In the year 2008, Credit bank had the highest cost income ratio in the entire industry of 88.52% followed by BOA at 84.07%, Middle East bank at 72.65%, HFCK at 71.14% and TNBK at 66.39%. Citibank had the least at 28.51% followed by BOB at 35.63%.

In the year 2009, DBK had the highest cost income ratio in the entire industry of 77.99% followed by, Middle East bank at 76.98%, Paramount at 75.88%, Credit bank at 75.57% and BOA at 71.66%. Citibank had the least at 31.86% followed by Stanchart at 41.48%. In the year 2010, CFC Stanbic had the highest cost income ratio in the entire industry of 68.88% followed by Chase bank at 68.83%, BOA at 66.58% and TNBK at 66.18%. BOB had the least at 22.72% followed by I & M at 32.79%. In the year 2011, Credit bank had the highest cost income ratio in the entire industry of 95.86% followed by BOA at 70.5%, Middle East bank at 69.7% and Chase

bank at 65.35%. BOB had the least at 23.62% followed by I & M at 29.09%. In the year 2012, Credit bank had the highest cost income ratio in the entire industry of 103.78% followed by Middle East at 79.32%, NBK at 75.39% and BOA at 71.86%. City bank had the least at 23.88% followed by BOB at 32.12%.

#### **4.3.4 Objective 2: Effect of Corporate governance on total income of commercial banks in Kenya due to NPAs**

##### **4.3.4.1 Total income analysis:**

Income from non-performing asset portfolios are not recognized on accrual basis and are booked as income only when it is actually received. The banks are not allowed to charge and take to income account interest on any non-performing asset portfolios. The interest is suspended. The quality of earnings is therefore very important criterion which determines the ability of a bank to earn consistently. It basically determines the profitability of the banks. It also explains the sustainability and growth in future earnings. This parameter has gained importance in the light of the argument that much of a bank's income is earned through activities such as investments, treasury operations, advisory services, exchange, commissions and fees, interest incomes, penalties and processing fees etc. The spread analysis, thus the difference between interest earnings and interest expended has received more attention in banking crises because it directly and easily develop link to change in interest rates.

Appendix VI represents total net operating income for the period 2005 to 2012 for 24 out of 43 commercial banks operating in Kenya.

From the period 2005-2012, the bank which generated higher earnings after BBK was Stanchart at 8.514 billion, 9.519 billion, 11.121 billion, 11.745 billion, 14.330 billion, 15.679 billion, 18.206 billion and 26.446 billion respectively in the years. It also shows that BBK made more money than any other bank in Kenya from 2005-2008 at 15.185 billion; 16.615 billion; 21.113 billion and 27.438 billion respectively. It was overtaken by KCB from 2009-2012 when it posted 26.145 billion; 27.480 billion; 27.634 billion and 30.319 billion respectively while KCB posted 27.259 billion; 34.125 billion; 37.699 billion and 49.831 billion during the period. BBK was also overtaken by Equity bank when Equity posted 28.094 billion and 38.079 billion in 2011 and 2012 respectively.

Total Income as a dependent variable entered against all the predictors: efficiency, capital adequacy and asset quality is highly significant ( $P < 0.005$ ). The multiple correlation coefficients,  $R$ , is the correlation coefficient between the observed values of  $y$  and the predicted values of  $x$ . ANOVA F statistic of 73.872 is significant with a  $P\text{-value} > 0.05$ . The model establishes a relationship between profitability, efficiency, capital adequacy and asset quality as shown in appendix XIV, XV and XVI.

The Coefficients show that the confidence level has been met by asset quality, capital adequacy and efficiency. The relationship between total income and asset quality is linear and the significance level is 0.065 meaning most banks' incomes are eroded by provisions and interest suspense due to non-performing assets. The relationship between total income and capital adequacy is linear and the significance level is 0.001 meaning most banks have the capacity to plough back their earnings to core capital. The relationship between total incomes and efficiency is also linear and the significance level is 0.097 meaning most of the banks are not efficient in terms of corporate governance. The coefficients show 95% confidence interval for Beta such that:

$$y_{it} = +bx_{it} + \epsilon_{it} \dots \dots \dots 1$$

$$y_2 = \alpha + a_1x_1 + a_2x_2 + a_3x_3 + \epsilon_3$$

$$Total\ Income_{it} = (-3113344.589) + (18.525) x_1 + (85.921) x_2 + (45.605) x_3 + \epsilon_{it}$$

This model fits the data well ( $F=73.872$ ,  $p<.0000$  and  $R^2=.665$ ). We may, however, suspect if there is a fixed group effect producing different intercepts across groups. Each Bank may have a significantly different level of total income, its y-intercept, when all regressors are set to zero. This difference is modeled as a fixed group effect.

Results for objective two showed  $a_1$ ,  $a_2$  and  $a_3$  for  $y_2$  as 18.525( $p=0.065$ ), 85.921( $p=0.001$ ) and 45.605( $p=0.097$ ), This means that a unit change in standard deviation in efficiency causes 45.605 standard deviations in total income of the banks due to non performing asset portfolios,

significantly. R square result was 0.665 implying that the model is stable and valid for prediction of total income of the banks due to NPAs at 66.5%.

The findings agree that the failure of corporate governance in banks may therefore pose serious consequences for the banking sector and the economy as a whole (Caleb 2011). These results also agree with results by Nkusu (2011), Zeng (2012) and Onuko, Muganda and Osiega (2015). However the results differ from those by Adebolaa *et al.* (2011).

#### **4.3.5 Objective 3: Effect of Corporate governance on Liquidity of commercial banks in Kenya due to NPAs**

##### **4.3.5.1 Liquidity analysis:**

A bank must be liquid enough to meet its day to day obligations to its customer. The objective of maintaining a certain liquidity ratio is to ensure that depositors are able to get their money as and when they require it. The CBK has a regulatory minimum of 20% on this ratio. A higher ratio implies a high level of liquidity. Every bank seeking to maintain its integrity in the market and continue in business must ensure that it always has enough cash to pay its depositor. To assess liquidity, the following parameter is used: Net Loans to Total Deposits. A lower ratio is safer in this regard.

Appendix VII represents net loans to total deposits for the period 2005 to 2012 for 24 out of 43 commercial banks operating in Kenya. In the year 2007, TNBK had the highest liquidity ratio at 99.23% followed by Equity bank at 80.84%. DBK at 12.87% and BBK at 16.5% were the lowest. In 2008, TNBK was highest at 91.64% followed by Citibank at 75.84%. DBK at 18.19% and KCB at 18.55% had the lowest. In the year 2009, NBK had the highest rate at 84.8% followed by TNBK at 73.96%. HFCK and DTB were lowest at 24.03% and 25.26% respectively. In the year 2010, TNBK was the highest at 77.3% followed by DBK at 74.76%, while Middle East at 10.96% and CFC Stanbic at 23.13% were the lowest. In 2011, Middle East at 135.77% and Credit bank at 86.68% were the highest. KCB at 16.88% and CFC Stanbic at 17.69% were the lowest. In 2012, Citibank at 89.22% and Credit bank at 79.82% had the highest liquidity ratio, while BOA at 22.46% and CFC Stanbic at 23.4% had the lowest. The table under the appendix also shows that Stanchart remained the most liquid bank in Kenya in 2005 at





Results for objective three showed  $a_1$ ,  $a_2$  and  $a_3$  for  $y_3$  as -0.055(p=0.121), 0.363(p=0.000) and -0.101(p=0.292). This means that a unit change in standard deviation in capital adequacy causes 0.363 standard deviations in liquidity of the banks due to non performing asset portfolios, significantly. R-square result was 0.161 implying that the model is stable and valid for prediction of liquidity of the banks due to non-performing asset portfolios at 16.1%. This finding agrees with Murinde et al 2004 that the traditional approaches to bank regulation are not conducive for management of NPAs. These approaches emphasized the view that the existence of capital adequacy regulation plays a crucial role in the long-term financing and solvency position of banks, especially in helping the banks to avoid bankruptcies and their negative externalities on the financial system. In general, capital or net worth serves as a buffer against losses and failure. 100% of the respondents agreed that high incidence of NPAs are a source of low profitability, low income and low liquidity in large commercial banks.

#### **4.3.6 Objective 4: Effect of Corporate governance on profitability of commercial banks in Kenya due to NPAs**

##### **4.3.6.1: Profitability analysis:**

The profitability of the bank ensures its going concern value. To assess earnings, the following parameter is used: Return on average assets (ROAA). This is the ratio of Profit before Tax (PBT) to the average of the total assets at the beginning and at the end of the year. This ratio is a measure of how well the bank's assets were utilized in realizing profits. A higher ratio is desirable. If profits continue to grow much faster than asset growth, then the bank is utilizing its asset much better to generate profits.

Appendix VIII represents profit before tax in millions for the period 2005 to 2012 for 24 out of 43 commercial banks operating in Kenya. From the period 2005-2012, the most profitable bank after BBK was Stanchart at 3.513 billion, 3.810 billion, 4.910 billion, 4.719 billion, 6.728 billion, 7.682 billion, 8.251 billion and 11.519 billion. It shows that BBK remained the most profitable bank in Kenya from 2005-2010 at 5.401 billion; 6.475 billion; 7.079 billion; 8.016 billion and 9.002 billion respectively. It was overtaken by KCB in 2011 and 2012 when it posted 12.012

billion and 13.019 respectively while KCB posted 14.055 billion and 16.042 billion during the period. BBK was also overtaken by Equity bank when Equity posted 15.88 billion in 2012.

The following model was adopted for analysis of this objective:

$$y_{it} = +bx_{it} + \epsilon_{it}$$

Profitability as a dependent variable entered against all the predictors: efficiency, capital adequacy and asset quality show a significant level of 0.000. The multiple correlation coefficients, R, is the correlation coefficient between the observed values of y and the predicted values of x. ANOVA F statistic of 63.279 is significant with a P-value>0.05. The model establishes a relationship between profitability, efficiency, capital adequacy and asset quality as shown in appendix XX, XXI and XXII.

The coefficients table presents the optimal weights in the regression model as seen in the following:

The Coefficients show that the relationship between profitability and asset quality is linear and the significance level is 0.704. The relationship between profitability and capital adequacy is linear and the confidence level is highly significant (P <0.001) meaning total deposits are higher than core capital. The relationship between profitability and efficiency is also linear and the significance level is 0.352 meaning most of the banks are not efficient in terms of corporate governance. The coefficients show 95% confidence interval for Beta and that:

$$y_{it} = +bx_{it} + \epsilon_{it} \dots\dots\dots 3$$

$$y_1 = \alpha + a_1x_1 + a_2x_2 + a_3x_3 + \epsilon_1$$

$$Profitability_{it} = (-1053343.538) + (1.463)x_1 + (36.334)x_2 + (-9.814)x_3 + \epsilon_{it}$$

This model fits the data well (F=63.279, p<.0000 and R2=.630). We may, however, suspect if there is a fixed group effect producing different intercepts across groups. Each Bank may have a

significantly different level of profitability, its y-intercept, when all regressors are set to zero. This difference is modeled as a fixed group effect.

Results for objective four showed  $a_1$ ,  $a_2$  and  $a_3$  for  $y_1$  as 1.463(p=0.704), 36.334(p=0.000) and -9.814(p=0.352). This means that a unit change in standard deviation in asset quality for example causes 1.463 standard deviations in profitability of the banks due to non performing asset portfolios significantly. R-Square was 0.630 implying that the model is stable and valid for prediction of the profitability of the banks due to non performing asset portfolios at 63%. These results agree with Rezaee (2008), Abel (2011) and Klein (2013). However they differ from those by Caleb (2011).

#### **4.4 Unit root test**

A stochastic process (a collection of the random variables ordered in time) are said to be stationary if its mean and variance are constant over time and the value of the covariance between the two periods depend only on the distance between the two time periods (Gujarat, 2004). The unit root test was conducted on the variables that the study focused on with Levin, Breitung t-stat, Pesaran and Shin W-stat, ADF - Fisher Chi-square and PP - Fisher Chi-square assuming the null hypothesis of panel data has unit root test and alternative hypothesis assuming that alternative hypothesis of panel data has no unit root. The tests were conducted using Newey-West automatic bandwidth selection and Bartlett kernel method and the results given in appendix IX reported that both the variables were stationary at levels.

##### **4.4.1 Objective 1: Effect of asset quality, capital adequacy and efficiency on total income**

###### **Table 4.1: Cointegration test**

This test gives the long run equilibrium relationship between the variables. The panel cointegration results were captured in the table below:-

Pedroni Residual Cointegration Test

Series: Y1 AQ CA E

Date: 10/07/16 Time: 10:01

Sample: 2005 2012

Included observations: 200

Cross-sections included: 24 (1 dropped)

Null Hypothesis: No cointegration

Trend assumption: No deterministic trend

Automatic lag length selection based on SIC with a max lag of 0

Newey-West automatic bandwidth selection and Bartlett kernel

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Alternative hypothesis: common AR coefs. (within-dimension)

	<u>Statistic</u>	<u>Prob.</u>	<u>Weighted</u> <u>Statistic</u>	<u>Prob.</u>
Panel v-Statistic	-1.890032	0.9706	-1.621142	0.9475
Panel rho-Statistic	3.101739	0.9990	3.086423	0.9990
Panel PP-Statistic	-3.349005	0.0004	-2.372829	0.0088
Panel ADF-Statistic	-2.842066	0.0022	-2.157252	0.0155

Alternative hypothesis: individual AR coefs. (between-dimension)

	<u>Statistic</u>	<u>Prob.</u>
Group rho-Statistic	5.483496	1.0000
Group PP-Statistic	-5.370497	0.0000
Group ADF-Statistic	-2.396675	0.0083

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From this result, there are seven tests that are computed and to determine whether there is cointegration or not, the probability of these tests must be greater than 50%. From the result, there are 4 tests with significant probabilities namely panel PP, panel ADF, group PP and group ADF statistics. As such, the overall conclusion is the existence of cointegration in the relationship between Y1, AQ, CA and E.

**Table 4.2: Regression equation**

With regard to the above objective, a panel regression model was performed as shown in the appendix, the pooled, fixed and random regression model were performed. Because the most appropriate model could not be ascertained, Hausman test was conducted and the results were tabled below:

Correlated Random Effects - Hausman Test  
Equation: Untitled

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	58.227917	3	0.0000

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
AQ	-0.291199	-0.257093	0.001601	0.3939
CA	0.767864	0.470814	0.010605	0.0039
E	1.576317	1.759964	0.000606	0.0000

Under the following assumption i.e. HO: random effect model is appropriate and H1: fixed effect model is appropriate, the study accepted the alternative hypothesis because the Hausman test probability was significant. The regression model following the fixed effect model is as below:-

Dependent Variable: Y1  
Method: Panel Least Squares  
Date: 10/07/16 Time: 09:23  
Sample: 2005 2012  
Periods included: 8  
Cross-sections included: 24

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1097.226	153.0503	7.169052	0.0000
AQ	-0.291199	0.124510	-2.338769	0.0205
CA	0.767864	0.299533	2.563535	0.0113
E	1.576317	0.038051	41.42591	0.0000

#### Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.978738	Mean dependent var	6695.974
Adjusted R-squared	0.975388	S.D. dependent var	8688.874
S.E. of regression	1363.142	Akaike info criterion	17.40267
Sum squared resid	3.07E+08	Schwarz criterion	17.86076
Log likelihood	-1643.656	Hannan-Quinn criter.	17.58820
F-statistic	292.1268	Durbin-Watson stat	2.300713
Prob(F-statistic)	0.000000		

From the above results, the R-square is 0.978738 meaning that the independent variables namely asset quality, capital adequacy and efficiency ratios explain 97.86% of the total income. The F statistics is 292.12 with a significant probability of 0.000. The R-square is also less than DW Watson signifying that the results are not useless.

According to the coefficients column, the results indicate that asset quality is negatively related to  $Y_1$  and any unit change in AQ results into a 0.291199 decline in  $Y_1$ . The probability ( $p = 0.0205$ ) is also significant at 5% level implying that AQ is a major determinant of  $Y_1$ .

Pertaining to CA, there is a positive relationship to  $Y_1$  meaning that any unit change in CA results in  $Y_1$  changing positively by 0.767864. It also has a significant probability ( $p=0.0039$ ) meaning that CA is also key in influencing  $Y_1$ .

The relationship between Efficiency (E) and  $Y_1$  has a significant probability ( $p=0.0000$ ) at 5% level and any unit change in E results in a positive change in  $Y_1$  by 1.576317 units.

#### 4.4.2 Objective 2: Effect of asset quality, capital adequacy and efficiency on liquidity

**Table 4.3: Cointegration test**

The co integration test results between Y2, AQ, CA and E is tabled below:

Pedroni Residual Cointegration Test

Series: Y2 AQ CA E

Date: 10/07/16 Time: 10:00

Sample: 2005 2012

Included observations: 200

Cross-sections included: 24 (1 dropped)

Null Hypothesis: No co integration

Trend assumption: No deterministic trend

Automatic lag length selection based on SIC with a max lag of 0

Newey-West automatic bandwidth selection and Bartlett kernel

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Alternative hypothesis: common AR coefs. (within-dimension)

	<u>Statistic</u>	<u>Prob.</u>	Weighted	
			<u>Statistic</u>	<u>Prob.</u>
Panel v-Statistic	-0.834408	0.7980	-0.979275	0.8363
Panel rho-Statistic	2.350789	0.9906	3.223806	0.9994
Panel PP-Statistic	-9.121152	0.0000	-1.817569	0.0346
Panel ADF-Statistic	-6.959389	0.0000	-1.647929	0.0497

Alternative hypothesis: individual AR coefs. (between-dimension)

	<u>Statistic</u>	<u>Prob.</u>
Group rho-Statistic	5.674027	1.0000
Group PP-Statistic	-3.133510	0.0009
Group ADF-Statistic	-2.103966	0.0177

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From the results in the above table, Panel PP, Panel ADF, Group PP and Group ADF statistics have significant probabilities at 5% level. As such, the overall conclusion is the existence of cointegration in the relationship between Y2, AQ, CA and E.



**Table 4.4: Regression analysis**

Under the assumption of Ho: random effect is appropriate and H1: fixed effect is appropriate, the calculation of hausman test resulted in the following results captured in the table below:-

Correlated Random Effects - Hausman Test  
Equation: Untitled  
Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	5.917833	3	0.1157

Cross-section random effects test comparisons:

Variable	Fixed	Random	Var(Diff.)	Prob.
AQ	1.854715	1.874026	0.004748	0.7793
CA	6.809834	6.691721	0.030382	0.4980
E	-0.478615	-0.391489	0.001554	0.0271

From the probability figure (p=0.1157) is insignificant hence, we accept the null hypothesis and reject the alternative hypothesis of fixed effect being appropriate. The table detailing the fixed effect model is in the table below:

Cross-section random effects test equation:

Dependent Variable: Y2

Method: Panel Least Squares

Date: 10/07/16 Time: 09:42

Sample: 2005 2012

Total panel (balanced) observations: 192

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	102.0782	219.3095	0.465453	0.6422
AQ	1.854715	0.178413	10.39563	0.0000
CA	6.809834	0.429209	15.86602	0.0000
E	-0.478615	0.054525	-8.777922	0.0000

#### Effects Specification

#### Cross-section fixed (dummy variables)

R-squared	0.970223	Mean dependent var	4358.089
Adjusted R-squared	0.965531	S.D. dependent var	10520.76
S.E. of regression	1953.279	Akaike info criterion	18.12211
Sum squared resid	6.30E+08	Schwarz criterion	18.58019
Log likelihood	-1712.722	Hannan-Quinn criter.	18.30763
F-statistic	206.7744	Durbin-Watson stat	2.210506
Prob(F-statistic)	0.000000		

From the table, the variables combined, explains 97.0223% of Y2. The F- statistics is also very significant and the DW is also nearing 2, meaning that there is no problem of autocorrelation.

The coefficients values imply that AQ and CA are positively related to Y2 and any unit change in AQ and CA changes the level of Y2 by 1.854715 and 6.809834 respectively. The probability values are also very significant at 5% level ( $p = 0.0000$ ). Meanwhile, the relationship between E and Y2 are negatively related and hence implies that any unit change in E will result in an adverse effect on Y2 by 0.478615 and also has a significant probability ( $p = 0.0000$ ).

#### 4.4.3 Objective 3: The effect of asset quality, capital adequacy and efficiency on profitability

**Table 4.5: Cointegration test**

The cointegration test results between Y3, AQ, CA and E is tabled below:

Pedroni Residual Cointegration Test  
 Series: Y3 AQ CA E  
 Date: 10/07/16 Time: 10:02  
 Sample: 2005 2012  
 Included observations: 200  
 Cross-sections included: 24 (1 dropped)  
 Null Hypothesis: No cointegration  
 Trend assumption: No deterministic trend  
 Automatic lag length selection based on SIC with a max lag of 0  
 Newey-West automatic bandwidth selection and Bartlett kernel

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Alternative hypothesis: common AR coefs. (within-dimension)

			Weighted	
	<u>Statistic</u>	<u>Prob.</u>	<u>Statistic</u>	<u>Prob.</u>
Panel v-Statistic	-0.444590	0.6717	-1.978048	0.9760
Panel rho-Statistic	2.678232	0.9963	2.876441	0.9980
Panel PP-Statistic	-6.508723	0.0000	-3.636088	0.0001
Panel ADF-Statistic	-5.060410	0.0000	-3.162147	0.0008

Alternative hypothesis: individual AR coefs. (between-dimension)

	<u>Statistic</u>	<u>Prob.</u>
Group rho-Statistic	5.636000	1.0000
Group PP-Statistic	-5.498939	0.0000
Group ADF-Statistic	-1.903103	0.0285

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From the results in the above table, Panel PP, Panel ADF, Group PP and Group ADF statistics have significant probabilities at 5% level. As such, the overall conclusion is the existence of co integration in the relationship between Y3, AQ, CA and E.

#### Table 4.6: Regression results

The effect of AS, CA and E was tested upon Y3. The Hausman test was conducted and results, under the null hypothesis of random effect are appropriate against an alternative hypothesis of fixed effect, the results are tabled below:-

Correlated Random Effects - Hausman Test  
Equation: Untitled  
Test cross-section random effects

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Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	49.241181	3	0.0000

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The results above indicate a significant probability at 5% level meaning that we accept the alternative hypothesis. As a result, the study therefore used the fixed effect.

Dependent Variable: Y3  
Method: Panel Least Squares  
Date: 10/07/16 Time: 09:45  
Sample: 2005 2012  
Periods included: 8  
Cross-sections included: 24  
Total panel (balanced) observations: 192

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Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	670.7273	126.6126	5.297477	0.0000
AQ	-0.310665	0.103002	-3.016107	0.0030
CA	0.553612	0.247792	2.234175	0.0268
E	0.462173	0.031479	14.68219	0.0000

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## Effects Specification

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Cross-section fixed (dummy variables)

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R-squared	0.891201	Mean dependent var	2181.245
Adjusted R-squared	0.874057	S.D. dependent var	3177.581
S.E. of regression	1127.674	Akaike info criterion	17.02340
Sum squared resid	2.10E+08	Schwarz criterion	17.48149
Log likelihood	-1607.247	Hannan-Quinn criter.	17.20893
F-statistic	51.98301	Durbin-Watson stat	2.386732
Prob(F-statistic)	0.000000		

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The regression results indicate that AQ, CA and E combined, explains 89.1201% of Y3. The significant F-statistics at 5% implies that the sample used can be used in the entire population and the DW of 2.386732 implies that there is no autocorrelation.

The coefficients of the independent variables indicate that CA and E are positively related to Y3 and any unit change in them results into Y3 changing by 0.553612 and 0.462173, all with a significant probability of 0.0268 and 0.0000 respectively at 5% respectively. The relationship between AQ and Y3 also indicates that a unit change in AQ results in adverse effect in Y3 by 0.310665. The probability is also significant ( $p=0.0030$ ) at 5% level.

## **CHAPTER FIVE**

### **SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS**

The chapter reports the findings of the study from 24 out of 43 commercial banks in Kenya. It also makes conclusions and provides recommendations on the findings of the study.

#### **5.1 Summary of Findings**

The findings reveal that there are factors that contribute to NPAs in commercial banks in Kenya. Top on the list is poor lending, followed by failure by customers to repay and lastly mismanagement. The results further show that capital adequacy, efficiency and asset quality contribute to profitability, total income and liquidity of these banks due to NPAs. Whereas asset quality affects profitability significantly, capital adequacy is linear and highly significant. Efficiency is also linear and has significant effect on profitability.

Asset quality, capital adequacy and efficiency all affect total income significantly. Capital adequacy predicts liquidity positively and significantly while asset quality predicts liquidity of these banks negatively and significantly. Efficiency has a positive significant effect on liquidity. The model for profitability is the least stable, followed by the model for total income and that for liquidity.

#### **5.2 Conclusions of the study**

On objective one, the study provided evidence that internal factors contribute to poor performance of banks at different levels among commercial banks in Kenya. Poor lending, mismanagement, customers' unwillingness to repay all contributes to poor performance of banks.

On objective two, the study found out that asset quality, capital adequacy and efficiency significantly affect total income. The models established a relationship between all the variables employed.

On objective three, it is concluded that asset quality, capital adequacy and efficiency have mixed effect on liquidity and that most banks are not efficient in terms of corporate governance. These approaches emphasized the view that the existence of capital adequacy regulation plays a crucial role in the long-term financing and solvency position of banks, especially in helping the banks to avoid bankruptcies and their negative externalities on the financial system. In general, capital or net worth serves as a buffer against losses and failure.

Lastly, on objective four, the asset quality, capital adequacy and efficiency have significant effect on profitability and that if profits continue to grow much faster than asset growth, then the bank is utilizing its assets much better.

### **5.3.1 Recommendations for policy**

The study recommends from conclusion on objective one that the commercial banks work towards minimizing the factors that contribute to their poor performance and treat them separately as they contribute at different levels. Secondly, the study recommends from conclusion on objective two that the banks regard asset quality, capital adequacy and efficiency as concerns their effect on total income.

The study further recommends from conclusion on objective three that the banks emphasize the three elements of corporate governance, asset quality, capital adequacy and efficiency discreetly as concerns their effect on liquidity since they have mixed effect in terms of direction and significance. Lastly, the study recommends from conclusion on objective four that the banks regard asset quality, capital adequacy and efficiency as concerns profitability as they have significant effect on the same.

### **5.3.2 Limitations of the Study**

The term limitation as used in the context of this study means limiting conditions or restrictive weaknesses encountered in the conduct of the research (Sekaran and Bougie, 2009). The following limitations were identified during this study:

First, the study covered only banks in operation in Kenya between 2005 to 2012 whereas some banks have operated in the country for over a century now and the Central Bank of Kenya was established in 1966 through an act of parliament. Thus the duration covered by this research was short and limited to the extent that, a longer period could have generated a more robust outcome. To mitigate this limitation a sample size of 24 out of 43 banks was selected. This was consistent with Lai (2011) who argued that at least 20 firms in any industry in a year are adequate to provide sufficient observations for estimation purposes.

Second, the research assumed that, the mixture of the banks' asset portfolios such as mortgages, asset finance, development facilities, consumer loans, micro facilities, corporate loans all have equal chance of becoming non-performing and that the sampled banks all offer the facilities with equal spread. However this weakness was addressed by looking at the cumulative NPL position of each bank and expressing the variables in financial ratios to create conformity. Third, the study relied on secondary data from bank records, journals, books, periodicals, magazines, libraries and internet services. The data is assumed to be reliable and hence only subjected to unit root test to confirm its stationary conditions and reliability. The data may exhibit some weaknesses due to the existence of varied sources which are not standardized. To redeem this weakness, data was standardized using financial ratios.

### **5.3.3 Recommendations for further research**

The study recommends that moderator or mediator studies be considered in future to unravel the mixed results that have been obtained in this study. Secondly, it also recommends a study that will cover the whole population and apply more advanced models of regression. Third, future researchers should consider other contexts and synchronize secondary and primary data to check on the missing links between the study variables.



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## APPENDICES

### Appendix I: List of Commercial Banks In Kenya

Sr	Name of Bank	Date licensed
1	African Banking Corporation Ltd (ABC Bank Kenya)	1984
2	Bank of Africa Kenya Ltd (BOA)	1980
3	Bank of Baroda (K) Ltd (BOB)	1953
4	Barclays Bank of Kenya Ltd (BBK)	1953
5	Bank of India Ltd (BOI)	1953
6	CFC Stanbic Bank Ltd	1955
7	Chase Bank (Kenya)	1991
8	Citibank Ltd	1974
9	Commercial Bank of Africa Ltd (CBA)	1967
10	Consolidated Bank of Kenya Ltd (COBK)	1989
11	Equatorial Commercial Bank Ltd (EQUCB)	1995
12	Credit Bank Ltd	1986
13	Cooperative Bank of Kenya Ltd (COOP)	1965
14	Development Bank of Kenya Ltd (DBK)	1973
15	Diamond Trust Bank Ltd (DTB)	1946
16	Dubai Bank Kenya Ltd	1982
17	Equity Bank Ltd (EQBL)	2004
18	Eco Bank Ltd	2005
19	Fidelity Commercial Bank Limited	1992
20	Family Bank Ltd	2007
21	GTbank (formerly Fina Bank) Ltd	1986
22	First Community Bank Ltd	2008
23	Guardian Bank Ltd	1992
24	Giro Commercial Bank Ltd	1992
25	Gulf African Bank Ltd (GBL)	2007
26	Habib Bank Ltd	1956
27	Habib A.G. Zurich Ltd	1978
28	Housing Finance Company of Kenya (HFCK)	1965
29	Investment & Mortgage Bank Ltd (I&M)	1974
30	Imperial Bank Kenya Ltd	1992
31	Jamii Bora Bank Ltd	2010
32	K-Rep Bank Ltd	1999
33	Kenya Commercial Bank Ltd (KCB)	1896
34	Middle East Bank Kenya Ltd	1980
35	National Bank of Kenya Ltd (NBK)	1968
36	National Industrial Credit Bank Ltd (NIC)	1959
37	Oriental Commercial Bank Ltd	1991
38	Prime Bank (Kenya) Ltd	1992
39	Paramount Universal Bank Ltd	1993
40	Standard Chartered Bank Ltd (STD)	1910
41	Trans National Bank Kenya Ltd (TNB)	1985
42	United Bank for Africa Kenya Ltd (UBA)	2009
43	Victoria Commercial Bank Ltd (VCB)	1987



Yes [ ] No [ ] 1, 2

Q6. How many years of experience have you put in the banking industry?

Less than 5years [ ] 1

Over 5 years [ ] 2

Over 10years [ ] 3

Over 15 years [ ] 4

Q7. In which departments have you worked in the banking sector?

Credit Risk [ ] 1

Operations [ ] 2

Audit [ ] 3

All the above [ ] 4

Q8. Does your bank uphold corporate governance measures?

Yes [ ] No [ ] 1, 2

If yes, how? \_\_\_\_\_

Q9. Is asset quality, capital adequacy, efficiency corporate governance processes?

Yes [ ] No [ ] 1, 2

Q10. Does your bank file returns to CBK on corporate governance measures?

Yes [ ] No [ ] 1, 2

Q11. Does corporate governance failure affect bank performance?

Yes [ ] No [ ] 1, 2

If yes, how? \_\_\_\_\_

Q12. Are you satisfied with the level of corporate governance structures in existence today?

Yes [ ] No [ ] 1, 2

If not, why? \_\_\_\_\_

Q13. Is the CBK doing enough to check on the bank compliance to procedures?

Yes [ ] No [ ] 1, 2

If not, why? \_\_\_\_\_

Q14. Does the CBK compare well with other countries' regulators in managing the banking sector?

Yes [ ] No [ ] 1, 2

Q15. Does your bank create corporate governance awareness amongst your staff?

Yes [ ] No [ ] 1, 2

If yes, how? \_\_\_\_\_

Q16. What in your opinion has led to bank failures in Kenya?

Poor Corporate governance	[ ]	1
Poor state of the economy	[ ]	2
Non-performing Assets Portfolio	[ ]	3
All the above	[ ]	4

Q17. What according to you has contributed most to NPAs in Kenya?

Poor lending practice	[ ]	1
Mismanagement	[ ]	2
The customer's unwillingness to repay	[ ]	3
All the above	[ ]	4

Q18. Is poor lending a major threat to the survival of the commercial Banks?

Yes [ ] No [ ] 1,2

Q19. Can NPAs be managed?

Yes [ ] No [ ] 1,2

Q20. What do you think leads to incidence of NPAs?

- |                                       |                          |   |
|---------------------------------------|--------------------------|---|
| Poor lending practice                 | <input type="checkbox"/> | 1 |
| Mismanagement                         | <input type="checkbox"/> | 2 |
| The customer's unwillingness to repay | <input type="checkbox"/> | 3 |
| All the above                         | <input type="checkbox"/> | 4 |

Q21. What percentage of your bank's loan book is NPA?

- |                  |                          |   |
|------------------|--------------------------|---|
| Above 30 Percent | <input type="checkbox"/> | 1 |
| Above 10 percent | <input type="checkbox"/> | 2 |
| Above 5 percent  | <input type="checkbox"/> | 3 |
| Below 5 percent  | <input type="checkbox"/> | 4 |

Q22. What is your bank doing to reduce the level of NPAs?

- |                                   |                          |   |
|-----------------------------------|--------------------------|---|
| Staff training on quality lending | <input type="checkbox"/> | 1 |
| Improved lending policy           | <input type="checkbox"/> | 2 |
| Customer awareness                | <input type="checkbox"/> | 3 |
| All the above                     | <input type="checkbox"/> | 4 |

Q23. How has NPAs affected the performance levels of your Bank?

- |                |                          |   |
|----------------|--------------------------|---|
| Very adversely | <input type="checkbox"/> | 1 |
| Adversely      | <input type="checkbox"/> | 2 |
| Fairly adverse | <input type="checkbox"/> | 3 |
| Marginally     | <input type="checkbox"/> | 4 |

Q24. Would you rate the level of NPAs in your Bank as manageable?

- |                              |                             |      |
|------------------------------|-----------------------------|------|
| Yes <input type="checkbox"/> | No <input type="checkbox"/> | 1, 2 |
|------------------------------|-----------------------------|------|

Q25. How do you rate the level of NPAs in your bank compared to other banks of your size in the market?

- |           |                          |   |
|-----------|--------------------------|---|
| Very High | <input type="checkbox"/> | 1 |
| High      | <input type="checkbox"/> | 2 |
| Medium    | <input type="checkbox"/> | 3 |
| Low       | <input type="checkbox"/> | 4 |

Q26. How do you rate the level of NPAs in your bank as relates to the entire industry?

- |           |                          |   |
|-----------|--------------------------|---|
| Very high | <input type="checkbox"/> | 1 |
| High      | <input type="checkbox"/> | 2 |
| Medium    | <input type="checkbox"/> | 3 |
| Low       | <input type="checkbox"/> | 4 |

Q27. Who would you say is responsible for the high incidence of NPAs if any, in your Bank?

- |                |                          |   |
|----------------|--------------------------|---|
| The customer   | <input type="checkbox"/> | 1 |
| The management | <input type="checkbox"/> | 2 |
| The society    | <input type="checkbox"/> | 3 |
| The government | <input type="checkbox"/> | 4 |

Q28. Why would NPA be such a big concern to your Bank?

- |                              |                          |   |
|------------------------------|--------------------------|---|
| It may lead to Bank failure  | <input type="checkbox"/> | 1 |
| It may lead to redundancies  | <input type="checkbox"/> | 2 |
| Because of CBK inspectors    | <input type="checkbox"/> | 3 |
| It gives the bank a bad name | <input type="checkbox"/> | 4 |

Q29. Do you agree that high incidences of NPAs are a source of low profitability, low incomes and low liquidity in a large number of commercial banks?

- |                |                          |   |
|----------------|--------------------------|---|
| Strongly Agree | <input type="checkbox"/> | 1 |
|----------------|--------------------------|---|



### Appendix III: Loan Loss Provision to Operating Income

	2005	2006	2007	2008	2009	2010	2011	2012
KCB	71.28	49.02	39.23	26.97	26.75	20.47	13.77	11.03
Equity	9.32	4.59	3.53	5.95	11.35	4.13	4.30	6.25
Coop	137.81	108.19	50.62	44.52	21.00	14.96	21.20	10.99
BBK	28.52	29.79	13.82	14.08	19.51	20.83	18.72	11.50
Stanchart	5.12	9.25	5.68	5.71	3.47	3.40	2.61	2.93
Citibank	9.03	5.90	5.13	2.76	2.79	2.79	2.03	1.47
CBA	18.13	15.14	14.40	14.62	15.89	22.41	23.75	16.76
DTB	6.60	8.33	4.61	7.70	6.65	8.38	8.56	9.38
NBK	303.78	298.03	59.73	28.21	15.49	9.60	10.96	20.28
NIC	34.37	32.62	20.04	19.47	26.47	25.09	26.77	21.28
CFC Stanbic	6.80	7.60	8.06	33.39	13.69	9.96	5.55	5.40
I & M	10.22	3.87	3.00	6.17	7.86	8.53	7.17	4.88
Imperial	19.32	17.79	15.45	14.32	13.99	11.43	10.46	10.98
Chase	15.37	8.30	17.49	13.06	10.56	6.81	8.31	7.65
BOA	9.72	7.59	7.07	10.49	3.70	2.77	2.12	3.77
HFCK	62.76	49.60	47.52	36.01	36.77	26.59	17.62	17.15
BOB	13.46	10.88	13.06	24.55	29.34	14.03	21.59	14.56
DBK	51.33	33.67	25.35	22.36	24.16	46.09	59.79	101.11
Credit	14.23	86.96	6.42	17.77	19.32	37.42	38.45	30.69
Giro	57.41	34.48	44.85	41.63	20.84	13.15	15.82	14.62
Guardian	130.92	129.67	159.11	120.46	90.34	83.39	59.78	61.06
Middle East	34.56	14.64	10.07	25.05	11.97	6.58	10.88	16.93
Paramount	88.40	65.75	62.87	64.58	61.69	30.71	48.13	49.18
TNBK	59.02	55.67	59.85	51.29	51.79	31.46	27.35	24.26

Source: Banking Survey (East Africa) 2014



#### Appendix IV: Core Capital to Total Deposits

	2005	2006	2007	2008	2009	2010	2011	2012
KCB	12.16	12.7	9.71	7.93	9.96	8.97	16.76	17.18
Equity	14.58	8.65	6.98	27.15	20.44	16.16	16.37	13.96
Coop	6.86	7.48	7.96	8.93	13.78	11.97	12.59	13.62
BBK	12.77	12.12	11.34	13.46	15.87	17.92	22.88	21.04
Stanchart	8.7	12.93	11.33	11.66	10.75	10.6	9.31	10.05
Citibank	14.85	20.47	19.09	22.8	26.76	27.94	26.85	34.94
CBA	6.78	6.51	8.7	7.72	8.72	7.54	8.45	9.58
DTB	8.74	7.99	8.7	9.5	8.44	7.97	11.1	11.35
NBK	8.22	9.26	9.7	12.96	13.51	14.85	16.01	17.35
NIC	14.17	10.85	10.88	11.52	12.83	11.1	11.09	11.71
CFC Stanbic	14.68	10.19	11.72	5.11	10.67	9.26	10.65	13.43
I & M	11.55	10.39	10.26	13.22	11.3	12.88	14.87	16.58
Imperial	15.4	15.15	14.55	13.91	14.06	14.93	11.59	10.88
Chase	31.64	17.32	14.55	9.31	7.54	6.74	6.39	7.02
BOA	15.73	13.22	13.51	9.2	8.13	8.62	7.92	9.71
HFCK	11.61	9.94	8.05	7.35	23.47	18.09	17.06	16.2
BOB	11.99	10.56	9.97	9.28	9.06	8.13	10.97	11.63
DBK	129.88	74.41	64.92	50.4	51.65	33.3	32.41	20.48
Credit	20.61	23.66	17.23	18.8	23.14	21.61	22.81	19.77
Giro	9.83	9.35	9.07	9.44	9.48	9.73	12.69	14.39
Guardian	20.71	18.93	17.35	17.56	14.49	12.52	11.42	10.27
Middle East	24.51	33.88	42.51	41.6	45.48	34.53	36.59	27.13
Paramount	24.25	17.54	22.13	21.27	18.97	14.36	20.9	16.49
TNBK	112.01	82.91	61.36	56.18	65.47	42.96	28.73	26.18

Source: Banking Survey (East Africa) 2014

## Appendix V: Cost Income Ratio

	2005	2006	2007	2008	2009	2010	2011	2012
KCB	73.46	64.64	63.46	55.76	66.86	61.05	52.72	50.52
Equity	68.91	63.34	59.84	52.34	60.16	51.00	46.67	45.30
Coop	64.57	61.25	65.30	61.02	62.80	58.92	62.01	58.45
BBK	52.68	51.36	58.83	60.65	59.33	53.99	51.63	52.00
Stanchart	45.53	45.52	46.21	49.38	41.48	42.55	45.59	40.85
Citibank	45.74	44.20	41.55	28.51	31.86	38.92	29.37	23.88
CBA	65.43	54.32	52.15	51.45	54.65	45.85	49.11	47.18
DTB	57.31	50.99	51.34	50.82	54.48	47.65	41.99	35.47
NBK	44.11	39.40	52.90	57.37	59.86	56.89	59.76	75.39
NIC	60.34	59.12	51.97	47.40	48.64	44.48	39.11	38.15
CFC Stanbic	65.72	51.20	50.22	58.53	69.71	68.88	64.62	60.84
I & M	49.69	41.23	39.77	38.48	42.09	32.79	29.09	34.58
Imperial	66.83	58.46	57.78	55.92	54.42	50.16	49.37	47.60
Chase	62.51	62.67	56.05	62.91	68.79	68.83	65.35	63.20
BOA	97.41	94.24	76.45	84.07	71.66	66.58	70.50	71.86
HFCK	72.91	71.36	78.13	71.14	58.05	48.22	47.00	50.36
BOB	56.11	47.25	39.90	35.63	40.08	22.72	23.62	32.12
DBK	8.92	57.29	51.15	51.35	77.99	47.66	59.72	70.15
Credit	50.20	83.76	65.70	88.52	75.57	52.24	95.86	103.78
Giro	80.94	68.34	58.59	65.96	61.90	36.47	55.76	70.06
Guardian	60.23	57.44	63.17	49.59	45.95	60.77	52.34	60.71
Middle East	53.35	65.11	67.51	72.65	76.98	52.53	69.70	79.32
Paramount	74.58	58.02	64.34	64.33	75.88	33.24	59.45	69.27
TNBK	70.80	68.99	72.21	66.39	70.93	66.18	57.47	61.46

Source: Banking Survey (East Africa) 2014

## Appendix VI: Total Net Operating Income

	2005	2006	2007	2008	2009	2010	2011	2012
KCB	9,973.00	12,861.00	15,742.00	24,913.00	27,259.00	34,125.00	37,699.00	49,831.00
Equity	1,885.00	3,498.00	6,317.00	13,968.00	17,281.00	24,212.00	28,094.00	38,079.00
Coop	6,797.00	7,996.00	9,051.00	11,379.00	14,005.00	18,303.00	22,556.00	30,866.00
BBK	15,185.00	16,615.00	21,113.00	27,438.00	26,145.00	27,480.00	27,634.00	30,319.00
Stanchart	8,514.00	9,519.00	11,121.00	11,745.00	14,330.00	15,679.00	18,206.00	26,446.00
Citibank	2,710.00	3,491.00	3,717.00	5,542.00	4,978.00	5,256.00	7,765.00	11,225.00
CBA	2,480.00	3,369.00	4,167.00	5,766.00	6,788.00	8,376.00	8,109.00	12,087.00
DTB	1,816.00	2,360.00	3,725.00	5,932.00	8,012.00	10,250.00	8,927.00	14,569.00
NBK	5,226.00	6,175.00	5,456.00	5,884.00	6,889.00	8,164.00	9,172.00	11,265.00
NIC	2,313.00	2,894.00	3,554.00	4,923.00	5,887.00	6,812.00	8,264.00	12,966.00
CFC Stanbic	1,507.00	2,408.00	3,170.00	6,677.00	8,751.00	10,520.00	13,246.00	19,076.00
I & M	1,923.00	2,589.00	3,414.00	4,417.00	5,359.00	7,019.00	9,139.00	13,115.00
Imperial	1,504.00	1,928.00	2,472.00	2,880.00	3,200.00	3,649.00	5,167.00	7,638.00
Chase	299.00	460.00	705.00	1,112.00	1,606.00	2,594.00	4,087.00	7,683.00
BOA	449.00	564.00	752.00	1,024.00	1,616.00	2,326.00	3,493.00	6,289.00
HFCK	1,199.00	1,206.00	1,158.00	1,533.00	2,031.00	2,730.00	3,753.00	5,349.00
BOB	852.00	1,163.00	1,494.00	2,004.00	2,384.00	3,706.00	4,094.00	6,220.00
DBK	274.00	352.00	488.00	644.00	767.00	956.00	1,151.00	1,537.00
Credit	303.00	288.00	344.00	356.00	433.00	596.00	645.00	968.00
Giro	516.00	590.00	665.00	718.00	862.00	1,094.00	1,335.00	1,822.00
Guardian	479.00	564.00	584.00	753.00	823.00	974.00	1,144.00	1,751.00
Middle East	426.00	375.00	372.00	362.00	331.00	560.00	530.00	739.00
Paramount	174.00	251.00	274.00	327.00	370.00	734.00	599.00	866.00
TNBK	325.00	384.00	450.00	552.00	564.00	736.00	1,007.00	1,400.00

Source: Banking Survey (East Africa) 2014

## Appendix VII: Net Loans to Total Deposits

	2005	2006	2007	2008	2009	2010	2011	2012
KCB	41.10	38.55	28.45	18.55	25.36	38.38	16.88	29.08
Equity	51.76	38.99	80.84	44.30	31.29	25.86	39.90	45.08
Coop	34.05	38.02	31.73	28.02	42.74	40.39	27.42	35.73
BBK	32.71	35.14	16.50	25.32	42.67	55.87	57.76	63.10
Stanchart	82.84	55.58	55.40	56.66	59.94	59.98	29.53	40.70
Citibank	64.52	61.87	68.34	75.84	64.02	67.22	70.58	89.22
CBA	49.23	60.74	48.22	33.50	42.15	37.71	30.53	32.42
DTB	31.53	37.10	28.41	31.09	25.26	34.21	56.65	45.72
NBK	18.34	20.56	27.54	24.69	84.80	51.61	21.67	51.86
NIC	28.09	35.39	28.93	26.87	28.27	26.17	53.97	58.16
CFC Stanbic	37.95	50.47	20.77	37.12	31.98	23.13	17.69	23.40
I & M	31.25	29.44	27.48	22.14	45.74	23.82	45.53	45.63
Imperial	31.41	30.46	22.47	24.53	39.42	49.82	27.65	28.97
Chase	19.88	48.17	20.57	18.65	39.81	44.16	35.97	57.37
BOA	37.04	33.31	26.74	30.95	47.15	47.94	20.87	22.46
HFCK	31.84	25.94	19.70	29.30	24.03	55.35	75.00	69.39
BOB	64.98	67.66	54.50	51.70	63.99	67.38	42.25	49.65
DBK	78.98	51.30	12.87	18.19	73.34	74.76	57.14	53.17
Credit	25.50	48.42	57.39	48.01	29.43	32.96	86.68	79.82
Giro	28.90	38.82	39.50	35.02	51.18	58.21	46.86	44.68
Guardian	22.51	37.92	36.66	30.03	38.45	37.09	31.56	33.27
Middle East	61.69	41.54	27.66	38.68	52.41	10.96	135.77	72.29
Paramount	41.89	64.37	53.92	58.32	62.18	62.15	59.54	66.73
TNBK	58.07	66.37	99.23	91.64	73.96	77.30	35.92	28.21

Source: Banking Survey (East Africa) 2014

### Appendix VIII: Profit before Tax in Millions

	2005	2006	2007	2008	2009	2010	2011	2012
KCB	1,948.00	3,124.00	4,202.00	6,006.00	6,299.00	9,797.00	14,055.00	16,042.00
Equity	501.00	1,103.00	2,364.00	4,988.00	5,203.00	8,950.00	11,948.00	15,880.00
Coop	714.00	1,256.00	2,094.00	3,359.00	3,729.00	5,636.00	6,148.00	8,219.00
BBK	5,401.00	6,475.00	7,079.00	8,016.00	9,002.00	10,774.00	12,012.00	13,019.00
Stanchart	3,513.00	3,810.00	4,910.00	4,719.00	6,728.00	7,682.00	8,251.00	11,519.00
Citibank	1,285.00	1,530.00	1,782.00	3,353.00	3,055.00	2,879.00	4,802.00	7,228.00
CBA	369.00	1,341.00	1,416.00	1,765.00	1,926.00	2,888.00	2,934.00	3,948.00
DTB	427.00	681.00	1,076.00	1,611.00	2,009.00	3,462.00	3,230.00	4,670.00
NBK	859.00	934.00	1,610.00	1,797.00	2,159.00	2,698.00	2,444.00	1,147.00
NIC	403.00	677.00	1,050.00	1,484.00	1,527.00	2,608.00	3,360.00	4,336.00
CFC Stanbic	444.00	921.00	1,194.00	1,313.00	1,333.00	2,104.00	3,128.00	4,711.00
I & M	489.00	936.00	1,294.00	1,619.00	1,752.00	3,004.00	4,516.00	4,618.00
Imperial	305.00	386.00	563.00	673.00	802.00	1,248.00	1,632.00	1,962.00
Chase	65.00	111.00	180.00	247.00	318.00	535.00	850.00	1,316.00
BOA	7.00	22.00	115.00	64.00	248.00	424.00	501.00	560.00
HFCK	90.00	141.00	113.00	203.00	351.00	631.00	975.00	909.00
BOB	238.00	372.00	523.00	633.00	726.00	1,827.00	1,676.00	1,666.00
DBK	165.00	128.00	148.00	166.00	93.00	228.00	148.00	88.00
Credit	42.00	37.00	71.00	(5.00)	30.00	160.00	(41.00)	(22.00)
Giro	(6.00)	59.00	41.00	125.00	185.00	634.00	329.00	207.00
Guardian	56.00	48.00	25.00	44.00	114.00	112.00	170.00	223.00
Middle East	115.00	100.00	94.00	30.00	44.00	206.00	92.00	46.00
Paramount	53.00	152.00	190.00	(494.00)	(289.00)	111.00	256.00	306.00
TNBK	59.00	46.00	64.00	121.00	107.00	154.00	293.00	322.00

Source: Banking Survey (East Africa) 2014

**Appendix IX: Unit Root Test: Summary for all variables**

	AQ		CA		E		Y1		Y2		Y3	
Method	Statistic	Prob.*	Statistic	Prob.*	Statistic	Prob.*	Statistic	Prob.*	Statistic	Prob.*	Statistic	Prob.*
Null: Unit root (assumes common unit root process)												
Levin, Lin & Chu t*	-81.2562	0	-94.1007	0	-11.67	0	-19.8	0	-12.5	0	-20	0
Breitung t-stat	-2.7447	0.003	-1.15794	0.12	-0.722	0.2352	-0.76	0.22	-2.7	0.004	-1.7	0.04
Null: Unit root (assumes individual unit root process)												
Im, Pesaran and Shin W-stat	-7.42102	0	-8.99432	0	-0.46	0.3226	-1.6	0.06	-11	0	-1.6	0.06
ADF - Fisher Chi-square	111.388	0	121.044	0	60.144	0.122	89.16	0	121	0	86.7	0
PP - Fisher Chi-square	178.371	0	211.941	0	11.852	0	16.8	0	193	0	157	0

## Appendix X: Age and Gender of Respondents

		Participants				Total
		18 - 25 years	26 - 33 years	34 - 41 years	Over 42 years	
<b>Male</b>	Frequency	2	16	0	0	18
	Percent	11.1%	88.9%	0.0%	0.0%	100.0%
<b>Female</b>	Frequency	0	5	0	1	6
	Percent	0.0%	83.3%	0.0%	16.7%	100.0%

Source: Research data (2014)

**Appendix XI: Education level of Respondents**

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid Tertiary	24	100.0	100.0	100.0

**Source: Research data (2014)**



**Appendix XII: Department worked in the banking sector**

Department	Frequency	Percent	Valid Percent	Cumulative Percent
credit risk	10	41.7	41.7	41.7
operation	6	25.0	25.0	66.7
Audit	4	16.7	16.7	83.3
All the above	4	16.7	16.7	100.0
Total	24	100.0	100.0	

**Source: Research data (2014)**

**Appendix XIII: Factors contributing to poor performance of commercial banks  
in Kenya**

Contributing Factors	Frequency	Percent	Valid Percent	Cumulative Percent
Poor lending	10	41.7	41.7	41.7
Mismanagement	3	12.5	12.5	54.2
Customers' unwillingness to repay	4	16.7	16.7	70.8
All the above	7	29.2	29.2	100.0
Total	24	100.0	100.0	

**Source: Research data (2014)**

#### Appendix XIV: Level Prediction of the model of total income

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Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.816 <sup>a</sup>	.665	.656	5095.57844

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a. Predictors: (Constant), Efficiency( $x_3$ ): Cost Income Ratio, Capital Adequacy( $x_2$ ): Core Capital to Total Deposits, Asset Quality( $x_1$ ): Loan Loss Provision to Operating Income, Year(t), Bank(i)

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## Appendix XV: Analysis of variance in the model of total income

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	9590362054.006	5	1918072410.801	73.872	.000 <sup>b</sup>
	Residual	4829475048.864	186	25964919.618		
	Total	14419837102.870	191			

a. Dependent Variable: Total Income( $y_2$ ): Total Net Operating Income

b. Predictors: (Constant), Efficiency( $x_3$ ): Cost Income Ratio, Capital Adequacy( $x_2$ ): Core Capital to Total Deposits, Asset Quality( $x_1$ ): Loan Loss Provision to Operating Income, Year(t), Bank(i)

## Appendix XVI: Effect of Asset Quality, Capital Adequacy and Efficiency on total income

Model		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-3113344.589	342933.242		-9.079	.000
	Bank(i)	-1020.641	62.405	-.815	-16.355	.000
	Year(t)	1557.441	170.593	.412	9.130	.000
	Asset Quality(x <sub>1</sub> )	18.525	9.992	.084	1.854	.065
	Capital Adequacy(x <sub>2</sub> )	85.921	24.964	.162	3.442	.001
	Efficiency(x <sub>3</sub> )	45.605	27.334	.075	1.668	.097

a. Dependent Variable: Total Income(y<sub>2</sub>)

## Appendix XVII: Level Prediction of the model of Liquidity

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.401 <sup>a</sup>	.161	.138	17.86847

a. Predictors: (Constant), Efficiency( $x_3$ ): Cost Income Ratio, Capital Adequacy( $x_2$ ): Core Capital to Total Deposits, Asset Quality( $x_1$ ): Loan Loss Provision to Operating Income, Year(t), Bank(i)

### Appendix XVIII: Analysis of Variance in the model of Liquidity

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	11363.964	5	2272.793	7.118	.000 <sup>b</sup>
	Residual	59386.494	186	319.282		
	Total	70750.458	191			

a. Dependent Variable: Liquidity( $y_3$ ): Net Loans to Total Deposits

b. Predictors: (Constant), Efficiency( $x_3$ ): Cost Income Ratio, Capital Adequacy( $x_2$ ): Core Capital to Total Deposits, Asset Quality( $x_1$ ): Loan Loss Provision to Operating Income, Year(t), Bank(i)

## Appendix XIX: Effect of Asset Quality, Capital Adequacy and Efficiency on Liquidity

Model		Coefficients <sup>a</sup>				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-2046.706	1202.551		-1.702	.090
	Bank(i)	.349	.219	.126	1.594	.113
	Year(t)	1.039	.598	.124	1.737	.084
	Asset Quality(x <sub>1</sub> )	-.055	.035	-.112	-1.560	.121
	Capital Adequacy(x <sub>2</sub> )	.363	.088	.309	4.146	.000
	Efficiency(x <sub>3</sub> )	-.101	.096	-.075	-1.056	.292

a. Dependent Variable: Liquidity(y<sub>3</sub>): Net Loans to Total Deposits



## Appendix XX: Level prediction of the model of profitability

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Summary				
Model	R	R Square	Adjusted R Square	Std. Error of
1	.794 <sup>a</sup>	.630	.620	

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a. Predictors: (Constant), Efficiency(x3): Cost Income Ratio, Capital Adequacy(x2): Core Capital to Total Asset Quality(x1): Loan Loss Provision to Operating Income, Year(t), Bank(i)

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## Appendix XXI: Analysis of Variance in the model of profitability

ANOVA <sup>a</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1214536183.391	5	242907236.678	63.279	.000 <sup>b</sup>
	Residual	713994298.104	186	3838679.022		
	Total	1928530481.495	191			

a. Dependent Variable: Profitability( $y_1$ ): Profit before Tax in Millions

b. Predictors: (Constant), Efficiency( $x_3$ ): Cost Income Ratio, Capital Adequacy( $x_2$ ): Core Capital to Total Deposits, Asset Quality( $x_1$ ): Loan Loss Provision to Operating Income, Year(t), Bank(i)

## Appendix XXII: Effect of Asset Quality, Capital Adequacy and Efficiency on profitability

Model		Coefficients			t	Sig.
		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta		
1	(Constant)	-1053343.538	131858.155		-7.988	.000
	Bank (i)	-342.998	23.995	-.749	-14.295	.000
	Year (t)	527.593	65.593	.381	8.043	.000
	Asset Quality( $x_1$ )	1.463	3.842	.018	.381	.704
	Capital Adequacy( $x_2$ )	36.334	9.599	.187	3.785	.000
	Efficiency( $x_3$ )	-9.814	10.510	-.044	-.934	.352

a. Dependent Variable: Profitability( $y_1$ )

