THE RELATIONSHIP BETWEEN PROFITABILITY AND LIQUIDITY OF COMMERCIAL BANKS IN KENYA

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF MASTERS OF BUSINESS ADMINISTRATION,

UNIVERSITY OF NAIROBI

NOVEMBER 2013

DECLARATION

This research project is my original work and has not been submitted for a degree at the University of Nairobi or any other institution of higher learning.

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

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ACKNOWLEDGEMENT

In the task of undertaking the study, I have received indispensable cooperation guidance, and help from many individuals. I therefore take this opportunity to most sincerely express my gratitude them all.

First I thank God the almighty for giving me strength, good health, sound mind and patience to take through this course.

I thank my supervisor Mr. Mirie Mwangi for his time, positive criticism, suggestions and encouragement in making this project a reality. I will also not forget all the lecturers and fellow students for MBA 2013.

You were all precious to me.

DEDICATION

To my wife Mary and our son John, for your understanding, support and encouragement when I stayed away from home for many days.

To my mother, Everlyne Wambui and late grandmother Margaret Mumbi for your material and moral support and making my academic dream a reality.

God bless you all.

For it's through him this far I have come.

ABSTRACT

The study sought to establish the relationship between the profitability and the liquidity of commercial banks in Kenya. Liquid assets are less profitable as compared to long term assets. The dilemma to a finance manager is whether to invest in more profitable long term assets and risk low liquidity or invest in short term assets which are less profitable and therefore reduce return on investment made. The aim of this study was to establish whether the profitability of commercial banks is affected by the liquidity levels of the bank. The population of the study was comprised of all 44 commercial banks in Kenya operating in the years 2008 to 2012. For a bank to qualify it needed to have been in operation during the whole period of the study and therefore institutions that merged or were not in operation in the whole period of study were eliminated. The study involved secondary data collection of the return on assets, to measure profitability and CBK liquidity ratio and current ratio to measure liquidity during a specific year. The study used secondary data obtained from audited financial statements of the banks at the end of the years of study. The study used descriptive statistics and regression analysis to establish the relationship between the study variables. The response rate was 73% that is a total 29 out of 40 that satisfied the data collection criteria. The study found out that there is a positive relationship between profitability and liquidity of commercial banks in Kenya; however, the coefficients from the study are not significant. Liquidity is found to be one of the determinants of profitability of commercial banks in Kenya over the years of study. The study recommends that the finance managers of commercial banks maintain a balance between the level of liquid assets and long term assets to reinforce each of the conflicting objectives of maintaining adequate liquidity and sustainable profitability. Additionally the liquidity requirements that have been set by CBK need to be maintained and strengthened since liquidity is found to have a positive effect on profitability of commercial banks stability and growth of the entire financial and economic.

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ABREVIATIONS

BCBS - Basel Committee on Banking Supervision

CBK - Central Bank of Kenya

NPV - Net Present Value

NSE - Nairobi Securities exchange

ROA - Return on Assets

ROCE - Return on Capital Employed

ROE - Return on Equity

CHAPTER ONE

INTRODUCTION

1.1 Background

According to Maxwell (1995) in most economies developed and developing, banks are the most important financial institutions. The banking sector is an important element in any economy as it plays the roles of satisfying the needs of investors with new financial instruments that offer a wider range of opportunities for risk management and transfer of resources, lowering transactions costs or increasing liquidity by creating financial instruments such as loans and also works as the operator of the payment system. Other roles played by the banking sector include the fundamental role in financial intermediation by mobilizing deposits from members of the public and employing such deposits by way of loans and investments. The significance of the banking sector underlines the need for stability in the sector that is vulnerable to financial distortions. Key drivers of stability for any commercial entity are profitability and liquidity.

Vieira (2010) describe profitability business's ability to generate earnings as compared to its expenses and other relevant costs incurred during a specific period of time. Potential investors are interested in dividends and appreciation in market price of stock, so they pay more attention on the profitability ratios. Managers on the other hand are interested in measuring the operating performance in terms of profitability. Hence, a low profit margin would suggest ineffective management and investors would be hesitant to invest in the company.

Niresh (2012) opined that liquidity is of major importance to both the internal and external analysts' because of its close relationship with day to day operations of a business. A weak liquidity position poses a threat to the solvency as well as profitability of a firm and makes it unsafe and unsound.

1.1.1 Profitability of Commercial Banks

The issue of bank profitability and performance efficiency has been widely discussed in the scientific literature, it has also been considered in a number of theoretical and empirical researches of different kind. However, return on assets (ROA) and return on equity (ROE) have always been mentioned among the main indicators characterizing bank performance. Bourke (1989), was one of the first who discovered in his research that exactly the internal factors of bank performance, such as net income before and after tax against total assets and capital and reserves factors, have the greatest impact on profitability indicators. In turn, the studies conducted in the USA and Europe demonstrate that a great concentration of banks and financial institutions surpass profitability

At the same time, Ramlall (2009) discovered a positive relationship between the size of the bank and profitability – the larger the bank is, the more profitable it is in comparison with a smaller bank, thus demonstrating the effect of economy of scale. In contrast, Sufian (2009), states that large size of the banks may leave a negative impact on bank profitability, he notes that small banks can earn higher profit because they have lower expenses and better performance efficiency. Berger et al (1995) correlate it with routine practical activities of an enterprise and states that profitability grows along with the

increase of the operational efficiency. Despite difference of opinion, all scholars agree that banks' profitability and efficiency indicators consist of external and internal factors.

Rasiah et al (2010) in his research found asset portfolio mix, loans and interest income, investments, non-interest income earning assets, total expenses, operating expenses, personnel expenses, liability composition, deposit composition, liquidity ratios, capital structure as internal factors influencing bank profitability. In turn, external factors comprise regulations, inflation, interest rate, short and long terms effects of interest rate on assets, market share, market growth, firm size

Pimentel et al, (2005), defines profitability as the final measure of economic success achieved by a company in relation to the capital invested in it. This economic success is determined by the magnitude of the net profit accounting generated as a percentage of the assets invested in. To achieve an appropriate return over the amount of risk accepted by the shareholders, is the main objective of companies operating in capitalist economies. After all, profit is the propulsive element of any investments in different projects.

1.1.2 Liquidity of Commercial Banks

According to Greuning, and Bratanovic, (2004) banking liquidity represents the capacity of a bank to finance itself efficiently the transactions. The liquidity risk, for a bank, is the expression of the probability of losing the capacity of financing its transactions, respectively of the probability that the bank cannot honor its obligations to its clients (withdrawal of deposits, maturity of other debt, and cover additional funding

requirements for the loan portfolio and investment). The management of the liquidity risk presents important at least from two points of view: primarily an inadequate level of liquidity may lead to the need to attract additional sources of with higher costs reducing profitability of the bank that will lead ultimately insolvency; and secondly an excessive liquidity may lead to a decrease of the return on assets and in consequence poor financial performance. A bank has a potential of appropriate liquidities when it‘s in condition to obtain the funds immediately and at a reasonable cost, when these are necessary. In practice, achieving and maintaining optimum liquidity is a real art of bank management.

Greuning, and Bratanovic, (2004) noted that maintaining an adequate degree of liquidity in the whole banking system is extremely important, because the registration of a liquidity crisis at a single bank can have negative repercussions over the whole banking system thanks to the risk of contagion through interbank settlements. The sophistication of liquidity management and liquidity risk depends on the size and characteristics of each bank as do the nature and complexity of activities held by it. The management of liquidity policies of a bank has to include a decisional structure for the risk management, a pattern (a strategy) for approaching operations and funding, a set of exposure limits to liquidity risk and a set of procedures for planning liquidities after alternative scenarios including crisis situations.

Bhunia (2010) refers to liquidity as the ability of a firm to meet its short term obligations. Liquidity plays a crucial role in the successful functioning of a business firm. A study of liquidity is of major importance to both the internal and external analysts because of its

close relationship with day to day operations of a business. Weak liquidity position poses a threat to the solvency as well as profitability of a firm and makes it unsafe and unsound. Two common ways to measure accounting liquidity are the current ratio and the quick ratio. The current ratio establishes the relationship between current assets and current liabilities. Normally, a high current ratio is considered to be an indicator of the firm's ability to promptly meet its short term liabilities. The quick ratio establishes a relationship between quick or liquid assets and current liabilities. An asset is liquid if it can be converted into cash immediately or reasonably soon without a loss of value. Low liquidity leads to the inability of a company to pay its creditors on time or honour its maturing obligations to suppliers of credit, services and goods. Also, the inability to meet the short term liabilities could affect the company's operations and in many cases it may affect its reputation as well.

1.1.3 Profitability- Liquidity Tradeoff in Commercial Banks

According to Koskela and Stenbacka (2000), commercial banks are profit-seeking organizations and the ability of a bank to earn profit depends upon its portfolio management. While making profits banks are also concerned about liquidity and safety. In fact profitability, liquidity and safety are the main objectives of a monetary policy. A commercial bank has to earn profit for its shareholders and at the same time satisfy the withdrawal needs of its customers. A bank tries to achieve the twin conflicting objectives of liquidity and profitability by selecting a diversified and balanced asset portfolio within the framework of the regulations of a central bank. Profitability and liquidity are important issues that management of each commercial unit should take studying and

thinking about them in to account as their most important duties. Melyk, Birita (1974); Richard and Laughlin, (1980), suggested that the importance of liquidity status for investors and managers for evaluating company future, estimating investing risk and return and stock price in one hand and the necessity of removing weaknesses and defects of traditional liquidity indices (current and liquid ratio) on the other hand persuade the financial researchers.

Eljelly (2004), suggested that practically, profitability and liquidity are effective indicators of the corporate health and performance of not only the commercial banks but all profit-oriented ventures. These performance indicators are very important to the shareholders and depositors who are major publics of a bank. As the shareholders are interested in the profitability level, the depositors are concerned with liquidity position which determines a bank's ability to respond to the withdrawal needs which are normally on demand or on a short notice as the case may be. Liquidity management is an important aspect of monetary policy implementation, while the other integral component of monetary policy, i.e. economic management, involves promoting sustainable economic growth over the long term by keeping monetary and credit expansion in step with an economy's noninflationary output potential, liquidity or reserve management as a shorter time horizon. In order to maintain relative macro-economic stability, reliance is placed on liquidity management to even out the swings in liquidity growth in the banking system.

According to Smith (1980), in the financial intermediation process, a bank collects money on deposit from one group (the surplus unit) and grants it out to another group

(the deficit unit). These roles involve bringing together people who have money and those who need money. Apart from the technical aspects of the regulator responsibility, it is important in to highlight certain critical factors that are required to facilitate liquidity management in the context of autonomy. These include a stable macroeconomic environment, a sound and competitive financial system, adequate regulatory and supervisory framework, and capacity build up. Stable macroeconomic environment to enhance liquidity management and ensure macroeconomic stability, there is the compelling need to insulate monetary policy from the pressure of financing the government fiscal deficit. Also, the monetary authorities should have freedom in the management of interest rate in order to sufficiently influence transactions in the intervention securities and enhance the effectiveness of instruments for liquidity management. Uncontrolled financing of the deficit by the regulator or goverment, either through ways and means advances or the absorption of unsubscribed government debt issues, increase bank liquidity thereby constraining the effectiveness of instruments for liquidity management

Olagunju , Adeyanju and Oluwayinka (2011), opined that through the financial inter-mediation role, the commercial banks reactivate the idle funds borrowed from the lenders by investing such funds in different classes of portfolios. Such business activity of the bank is not without problems since the deposits from these fund savers which have been invested by the banks for profit maximization, can be recalled or demanded when the latter is not in position to meet their financial obligations. Considering the public loss of confidence as a result of bank distress which has bedeviled the financial sector in the last

decade; and the intensity of competition in the banking sector due to the emergence of large number of new banks, every commercial bank should ensure that it operates on profit and at the same time meets the financial demands of its depositors by maintaining adequate liquidity. The problem then becomes how to select or identify the optimum point or the level at which a commercial bank can maintain its assets in order to optimize these two objectives since each of the liquidity has a different effect on the level of profitability. This problem becomes more pronounced as good numbers of commercial banks are engrossed with profit maximization and as such they tend to neglect the importance of liquidity management. However, the profit maximization becomes a myth as the resulted liquidity can lead to both technical and legal insolvency with the consequence of low patronage, deposit flight and erosion of asset base.

1.1.4 Commercial Banks in Kenya

The study seeks to establish the relationship that exists between the profitability and the liquidity of Commercial Banks in Kenya. The Kenyan banking sector has experienced stable growth in profitability. According to the Central Bank of Kenya(CBK) report for the year ended 31 December 2012, the banking sector's profit before tax increased by 20.6 percent to Kshs. 107.9 billion for the year ended 31 December 2012 up from to Kshs. 89.5 billion for the year ended 31 December 2011. The growth in profit was attributed to higher levels of revenue inflows from the growth in credit portfolio, regional expansion initiatives and fees on innovative products offered by institutions. The sector's average liquidity increased to 41.9 percent in December 2012 from 37.0 percent in December 2011, and this was way above the statutory minimum of 20.0 percent as set by

the CBK prudential guidelines. However, the ratio of non-performing loans to gross loans increased from 4.4 percent in December 2011 to 4.7 percent in December 2012. The increase in non-performing loans signaled an increase in credit risk which was largely attributable to high interest rates in the first half of 2012

According to the CBK Act(2004), liquid assets comprise of notes and coins which are legal tender in Kenya, balances held at Central Bank of Kenya, balances held at other banks in Kenya after deducting there from balances owed to those other banks, balances at banks abroad withdrawable on demand or short notice and money at call abroad after deducting therefrom balances owed to banks abroad, Kenya treasury bills and bonds of maturity not exceeding ninety-one days which are freely marketable and re-discountable at the Central Bank and such other assets as the Central Bank may specify.

1.2 Research Problem

Eljelly (2004) opines that firms with high liquidity have majority portion of their investments in short term assets, which have lower return than the long term assets. As a result high liquidity is expected to be associated with low profitability and vice-versa. Maintaining a proper liquidity indicates that funds are confined to liquid assets thereby making them unavailable for operational use or for investment purposes for higher returns. Thus, there is an opportunity cost associated with the maintenance of those liquid assets and this might affect the overall profitability of the firm. In other words, increasing profitability would tend to reduce firm's liquidity and too much attention on liquidity would tend to affect the profitability. Therefore, firms should always strike to maintain a

balance between conflicting objectives of liquidity and profitability. The firm's liquidity should not be too high or too low. Excessive dependence on liquidity indicates the accumulation of idle funds that don't fetch any profits for the firm. On the other hand, insufficient liquidity might damage the firm's goodwill, deteriorate firm's credit standings and that might lead to forced liquidation of firm's assets. Holding of liquid assets is beneficial up to a certain extent beyond which an increase in holding liquid assets can eventually be outweighed by the opportunity cost of holding such comparatively low-yielding liquid assets on the balance sheet.

Bank of Canada (2010) in its working paper "The Impact of Liquidity on Bank Profitability in Canada" observed that liquidity was an instrumental factor during the 2008-2009 financial crises. Since liquid assets such as cash and government securities generally have a relatively low return, holding them imposes an opportunity cost on a bank. In the absence of regulation, it is reasonable to expect banks will hold liquid assets to the extent they help to maximize the firm's profitability. The paper found evidence, based on a panel of Canadian and American banks from 1997 to the end of 2009, that profitability is improved for banks that hold some liquid assets. Dernberg (1985) observed that in managing their portfolios, the commercial banks have two main aims that may conflict; maintenance of stock of liquid assets in case their cash is under pressure and the wish to earn high return on their assets in order to maximize profits. Smith (1980) observed that excessive dependence on liquidity indicates the accumulation of idle funds that don't fetch any profits for the firm. On the other hand, insufficient

liquidity might damage the firm's goodwill, deteriorate firm's credit standings and that might lead to forced liquidation of firm's assets.

Wahiu (1999) did a study to establish the determinants of liquidity of commercial banks in Kenya. The study involved all the commercial banks operating in Kenya during the period 1989 to1998. He observed that one of the two most important requirements of liquidity is profitability. Loo (2007) carried out a survey of liquidity management approaches and their effect on profitability of commercial banks in Kenya. The survey involved all the commercial banks in operation during the period 1995 to 2004. The results of the survey were that liquidity management approaches adapted have an effect on the profitability of commercial banks in Kenya. Profitability of commercial bank is expected to be affected by the liquidity level.

Is there trade-off between liquidity and profitability in the Kenya banking sector? Is there an optimal level of liquidity that maximizes the short term profitability and the long term wealth of the banks in Kenya? The study seeks to identify whether profitability of banks in Kenya is affected by liquidity.

1.3 Research Objective

The objective of the study is to identify the relationship between profitability and liquidity of commercial banks in Kenya.

1.4 Value of the Study

The findings on this research will contribute to the theory of finance since liquid assets generally have a relatively low return, holding them imposes an opportunity cost on a firm. The research will help distinguish empirically, whether firms' holdings of liquid assets have a significant impact on their profitability. Should this be the case, such basic empirical information is crucial to proper calibration in the context of domestic and international liquidity regulation.

The findings of the study can guide finance managers in banks to make investment decisions that will satisfy the stakeholders' interest with regard to liquidity and profitability needs of the investors. Identification of liquidity levels that maximize profits enables managers revise and adopt relevant strategies. Additionally the regulators will have evidence as to what levels of liquidity are present in profitable banks. This will help them formulate rules and regulations that help minimize failure risk in the sector. Further the research adds to the body of knowledge in finance as well as further evidence on how banks are managed.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

According to the Bank of Canada working paper (2010-38), the 2009-2010 financial crises underlined the importance of sound bank liquidity management. In response, regulators are devising new liquidity standards with the aim of making the financial system more stable and resilient. Basel Committee on Banking Supervision (BCBS), 2010 suggested the desire for common measures and standards for liquidity risk. Liquidity is a measure of a firm's ability to meet its short-term obligations, it is the degree to which an asset or security can be bought or sold in the market without affecting the asset's price. Liquidity is characterized by a high level of trading activity. Profit is the excess of resources earned over resources expended or income less costs.

2.2 Theoretical Review

2.2.1 Liquidity Theories

Longworth (2010) Bernanke (2008) noted that liquidity was an instrumental factor during the recent financial crisis. As uncertainty led funding sources to evaporate, many banks quickly found themselves short on cash to cover their obligations as they came due. In extreme cases, banks in some countries failed or were forced into mergers. As a result, in the interest of broader financial stability, substantial amounts of liquidity were provided by authorities in many countries, including Canada and the United States. Since liquid assets such as cash and government securities generally have a relatively low return, holding them imposes an opportunity cost on a bank. In the absence of regulation, it is

reasonable to expect banks will hold liquid assets to the extent they help to maximize the firm's profitability. Beyond this, policymakers have the option to require larger holdings of liquid assets, for instance, if it is seen as a benefit to the stability of the overall financial system. While regulation can make the financial system more resilient to liquidity shocks, calibration should recognize any associated costs to the efficiency of financial intermediation as this could result in higher borrowing costs for other agents in the system.

2.2.1.1 Quantitative Liquidity Theories

Baumol's (1952) inventory management model and Miller and Orr's (1966) model which recognized the dynamics of cash flows are some of the earlier research efforts attempted to develop models for optimal liquidity and cash balances, given the organization's cash flows the focus was on using quantitative models that weighed the benefits and costs of holding cash (liquidity). These earlier models help financial managers understand the problem of cash management, but they rest on assumptions that do not hold in practice. The trade-off model postulates that firms identify their optimal level of cash holdings by weighting the marginal costs and marginal benefits of holding cash. The benefits related to cash holdings are: reduces the likelihood of financial distress, allows the pursuance of investment policy when financial constraints are met, and minimizes the costs of raising external funds or liquidating existing assets. The main cost of holding cash is the opportunity cost of the capital invested in liquid assets. A firm that currently pays dividends can raise funds at low cost by reducing its dividend payments, in contrast to a

firm that does not pay dividends. Firms will trade-off holding cash and investing it depending on its investment needs.

Miller and Orr (1966) model of demand for money by firms suggests that there are economies of scale in cash management. This would lead larger firms to hold less cash than smaller firms. Also, it is argued that the fees incurred in obtaining funds through borrowing are uncorrelated with the size of the loan, indicating that such fees are a fixed amount. Thus, raising funds is relatively more expensive to smaller firms encouraging them to hold more cash than larger firms. Firms with more volatile cash flows face a higher probability of experiencing cash shortages due to unexpected cash flow deterioration. Thus, cash flow uncertainty should be positively related with cash holdings. Barclay and Smith (1995), however provide evidence that firms with the highest and lowest credit risk issue more short-term debt while intermediate credit risk firms issue long-term debt. If we consider that firms with the highest credit rating have better access to borrowing, it is expected that these firms will hold less cash for precautionary reasons, which would cause debt maturity to be positively related to cash holdings.

2.2.2.2 Liquidity Motive Theories

The economics and finance literature analyze possible reasons for firms to hold liquid assets. Keynes (1936) identified three motives on why people demand and prefer liquidity. The transaction motive, here firms hold cash in order to satisfy the cash inflow and cash outflow needs that they have. Cash is held to carry out transactions and demand for liquidity is for transactional motive. The demand for cash is affected by the size of the

income, time gaps between the receipts of the income, and the spending patterns of the cash available. The precautionary motive of holding cash serves as an emergency fund for a firm. If expected cash inflows are not received as expected cash held on a precautionary basis could be used to satisfy short-term obligations that the cash inflow may have been bench marked for. Speculative reason for holding cash is creating the ability for a firm to take advantage of special opportunities that if acted upon quickly will favor the firm.

Almeida et al. (2002) proposed a theory of corporate liquidity demand that is based on the assumption that choices regarding liquidity will depend on firms' access to capital markets and the importance of future investments to the firms. The model predicts that financially constrained firms will save a positive fraction of incremental cash flows, while unconstrained firms will not. Empirical evidence confirms that firms classified as financially constrained save a positive fraction of their cash flows, while firms classified as unconstrained do not. The cost incurred in a cash shortage is higher for firms with a larger investment opportunity set due to the expected losses that result from giving up valuable investment opportunities. Therefore, it is expected a positive relation between investment opportunity and cash holdings. The theory also predicts that firms with better investment opportunities have greater financial distress costs because the positive Net Present Value (NPV) of these investments disappears (almost entirely) in case of bankruptcy. In this case, firms with better investment opportunities will keep higher levels of cash to avoid financial distress. To the extent that liquid assets other than cash can be liquidated in the event of a cash shortage, they can be seen as substitutes for cash

holdings. Consequently, firms with more liquid asset substitutes are expected to hold less cash. It is generally accepted that leverage increases the probability of bankruptcy due to the pressure that rigid amortization plans put on the firm treasury management. To reduce the probability of experiencing financial distress, firms with higher leverage are expected to hold more cash. On the other hand, to the extent that leverage ratio acts as a proxy for the ability of the firms to issue debt it would be expected that firms with higher leverage (higher ability to raise debt) hold less cash. Thus, the predicted relationship between cash holdings and leverage is ambiguous.

2.3 Profitability and Liquidity

2.3.1 Measuring Liquidity

2.3.1.1 CBK Liquidity Ratio

According to the CBK Act, Liquidity Regulation Supplement (2004), CBK uses one measure of liquidity, the liquidity ratio (which is given by the percentage of net liquid assets as a liquid assets as a proportion of net deposits liabilities. Net assets comprise of; notes and coins which are legal tender in Kenya, balances held at CBK, balances held at other banks in Kenya after deducting there from balances owed to those other banks, balances at banks abroad withdrawable on demand or short notice and money at call abroad after deducting therefrom balances owed to banks abroad, Kenya treasury bills and bonds of maturity not exceeding ninety-one days which are freely marketable and re-discountable at the CBK. Net deposit liabilities comprise of; deposit from parastatals, deposits from other sources and balances due to banks, balance due to financial institutions, balances due to mortgage companies, and balances due to building societies.

2.3.1.2 Accounting Measures of Liquidity

Atrill and McLaney (2008) define working capital as a measure of both a company's efficiency and its short-term financial health. It rrepresents that portion of current assets financed by long term funding not requiring immediate payment. The working capital ratio is calculated as:

Working Capital =Current Assets-Current liabilities

Chandra (2001) defines current ratio as a liquidity ratio that measures a company's ability to pay short-term obligations. It's calculated as ratio of current assets to current liabilities. The ratio is mainly used to give an idea of the company's ability to pay back its short-term liabilities (debt and payables) with its short-term assets (cash, inventory, receivables).Rule of the thumb is that a ratio between 1.2 and 2.0 is sufficient.

According to Stolowy and Lebas (2006) cash ratio is an indicator of a company's liquidity that further refines both the current ratio and the quick ratio by measuring the amount of cash; cash equivalents or invested funds there are in current assets to cover current liabilities. Cash to current liabilities is a ratio of cash and short-term marketable securities to divide current liabilities. Acid test ratio is a measure of assets that can be easily be converted to cash and is given by the total sum of cash, cash equivalents marketable securities and account receivables as a proportion of current liabilities.

2.3.2 Measuring Profitability

Pimentel et al, (2005) defined profitability as the final measure of economic success achieved by a company in relation to the capital invested in it. This economic success is determined by the magnitude of the net profit accounting to achieve an appropriate return over the amount of risk accepted by the shareholders, is the main objective of companies operating in capitalist economies. After all, profit is the propulsive element of any investments in different projects. The assessment of profitability is usually done through the ROA (Return on Assets = Net Income / Total Assets) and ROE (Return on Equity = Net Income / Equity), which is the ultimate measure of economic success.

Whitehead (2001) defines ROA as the ratio that measures the firm's ability to use its assets to create profits. It's computed as the ratio of net income to the average assets of the company during the year. The net income is the amount of the firm's income that is available for distribution to the shareholders of the firm. Average assets are the average of assets at the start and the end of the financial year of the firm that are used in the production of the income. ROA is useful number for comparing competing companies in the same industry. The number will vary widely across different industries. Return on assets gives an indication of the capital intensity of the company, which will depend on the industry; companies that require large initial investments will generally have lower return on assets.

Maheshwari and Maheshwari (2009) defines ROE as the ratio that compares the amount of profit for the period available to the owners with the owners' average stake in the

business during that same period. The ratio is normally expressed as a percentage of profit for the year less any preference dividend divided by the value of the ordinary share capital and reserves. The profit represents what is available for the owners. It is preferable to use the average of the ordinary shareholders' funds as this is likely to be more representative.

2.4 Empirical Evidence

Bourke (1989) carried out a study to establish the relationship between liquid assets and bank profitability for 90 banks in Europe, North America and Australia from 1972 to 1981, the study used econometric framework presented in an equation. The dependent variable, profitability, was regressed against a non-linear expression of relative liquid asset holdings, as well as a set of control variables. Liquid assets were generally included as a control variable in this study with very limited discussion around the estimated parameter. From the study a company with low liquidity and high profitability has to increase its borrowing leading to an increase of the financial costs. This would certainly lead to increasing interest rates, since the cheaper sources are quickly exhausted. Furthermore, having increased its debt, the company raises its credit risk, causing an increase in interest rates charged by their financiers. Under these conditions, the company has to get more time from suppliers, resulting in the acquisition of raw materials at higher prices. Also it will fail to achieve financial discounts offered by the anticipation of payments and incur interest and penalties for late payments the liquidity problems would become even worse. The study emphasized that profitability and solvency are necessary

condition for the healthy existence of the company and both are conditioned by the strategy adopted in the medium and long term.

Berger (1995) analyzed the statistical relationships between bank earnings and capital for 50 U.S. banks over the period of 1983-1989 using multiple regression analysis and found that, contrary to what one might expect in situations of perfect capital markets with symmetric information there is a positive relationship between capital and return on equity. This result, according to the author, is consistent with the "expected bankruptcy cost hypothesis." More specifically, Berger's results suggest that banks with higher levels of capital see their funding costs decrease to such an extent that it more than offsets the cost of issuing additional capital. While Berger applies the concept of the "expected bankruptcy cost hypothesis" in the realm of capital, it is also conceptually applicable to the impact of liquid assets on profitability, whereby banks holding more liquid assets benefit from a superior perception in funding markets, reducing their financing costs and increasing profitability.

Bordeleau, Crawford and Graham (2009) reviewed the impact of liquidity on bank profitability for 55 US banks and 10 Canadian banks between the period of 1997 and 2009. The study employed quantitative measures to assess the impact of liquidity on bank profitability. Results from the study suggested that a nonlinear relationship exists, whereby profitability is improved for banks that hold some liquid assets, however, there is a point beyond which holding further liquid assets diminishes a banks' profitability, all else equal. Conceptually, this result is consistent with the idea that funding markets reward a bank, to some extent, for holding liquid assets, thereby reducing its liquidity

risk. However, this benefit can eventually be outweighed by the opportunity cost of holding such comparatively low-yielding liquid assets on the balance sheet. At the same time, estimation results provided some evidence that the relationship between liquid assets and profitability depended on the bank's business model and the risk of funding market difficulties. Adopting a more traditional i.e. deposit and loan-based business model allows a bank to optimize profits with a lower level of liquid assets. Likewise, when the likelihood of funding market difficulties is low, banks need to hold less liquid assets to optimize profits. The empirical results presented in this paper were in line with similar concepts in the broader literature related to capital, credit risk and international reserves.

Owolabi, Obiakor and Okwu (2011) conducted a study that investigated the relationship between liquidity and profitability in 15 selected quoted companies in Nigeria. The central objective was to examine the nature and extent of the relationship between liquidity and profitability in profit-driven quoted companies and also to determine whether any cause and effect relationship existed between the two performance measures. Liquidity measure considered was current assets- liabilities ratio while profitability measure was operating profit-turnover ratio. Investigative and quantitative analysis methods were used for the study. Analysis was based on data extracted from annual reports and accounts of the companies for the relevant period. Correlation and regression analysis respectively were employed to examine the nature and extent of the relationship between the variables and determine whether any cause and effect relationship between them. A model of perceived functional relationship was specified, estimated and

evaluated. The results showed that while a trade-off existed between liquidity and profitability in the banking company, the two variables were positively correlated and also reinforced each other in the other companies.

Loo (2007) conducted a survey of liquidity management approaches and their effect of profitability of commercial banks in Kenya. The survey was conducted on all commercial banks operating in Kenya between the periods 1997 to 2004 and used questionnaires to top finance management staff to identify liquidity management approaches. The study found that profitability was one of the factors that affected a firm's liquidity management policy. From the study there was a positive correlation between liquidity and profit levels in the banks.

Mureithi (2003) carried out an empirical investigation into the determinants of corporate cash holding for the Kenyan quoted companies. The study involved 29 companies quoted at the Nairobi Securities exchange (NSE) over a period of 10 years. The study used descriptive and quantitative statistics; he observed that one of the factors affecting corporate cash holding is the profitability of the entity. He observed that profitability convey to the market credit worthiness and growth prospects of the firm. From the study there was positive relationship between profitability and liquidity.

Njihia (2005), in a study to identify determinants of commercial banks profitability in Kenya identified liquidity as one of the factors affecting profitability. The study involved 35 commercial banks operating in Kenya over a period of 5 years. The study employed

descriptive statistics and multiple regression analysis to estimate the determinants of commercial banks profitability. The study concluded that in one of the years under study liquid assets significantly determined the profit of the commercial banks especially in the period after political instability after the elections. The ratio of deposits held, loans and advances held by the commercial banks influenced the profitability.

Kamoyo (2006) carried out an empirical study on the determinants of liquidity of commercial banks in Kenya. The study involved 30 commercial banks operating in Kenya in the period 1995 to 2004. The study applied descriptive statistics, investigative questionnaires and multiple regression analysis to establish the determinants of liquidity in commercial banks. The results of the study indicated an insignificant negative relationship between profitability and liquidity.

2.5 Summary of Literature Review.

This research will examine the relationship between profitability and liquidity of commercial banks in Kenya, in the short and long term. Banks in Kenya are required to maintain a certain level of liquidity as set by the CBK prudential guidelines. These guidelines are meant to ensure that the entire financial system is stable. From review of literature there is a positive relationship with varying extent between liquidity indicators and profitability indicators on the short term to long term. Review indicated that there was a trade-off between profitability and liquidity in the financial sector but the two variables are positively correlated and also reinforced each other. There was also observed varying results depending on the industry in which the research was conducted,

holding of liquid assets in the financial sector was beneficial up to a certain extent beyond which an increase in holding liquid assets can eventually be outweighed by the opportunity cost of holding such comparatively low-yielding liquid assets on the balance sheet. At the same time, estimation results provided some evidence that the relationship between liquid assets and profitability depended on the bank's business model and the risk of funding market difficulties.

It would be interesting to execute a qualitative research in order to answer how the firms' managers observe the relationship of liquidity and profitability, i.e. if they observe a dilemma between these two financial indicators or they think they are interdependent. Study can also be carried out in other sectors of the economy to see the relationship between these variables and also cross border study would be interesting to understand the effect of different regulatory framework on these two variables.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter discusses the research design and methodology of the study; it highlights a full description of the research design, the research variables and provides a broad view of the description and selection of the sample and population. The research instruments, data collection techniques and data analysis procedure have also been pointed out.

3.2 Research Design

A descriptive research design was in this study. A descriptive research describes the characteristics of objects, people, groups, organizations, or environments, and tries to "paint a picture" of a given situation, Zikmund, Babin, Carr and Griffin, (2010). In this case, the relationship between profitability and liquidity of all commercial banks in Kenya will be determined. The dependent variable is profitability as measured through ROA while the independent variable is liquidity as measured through the CBK liquidity ratio and Current ratio.

3.3 Population

The population of interest in this study was composed of all commercial banks in Kenya between years 2008 and 2012 in that period, 40 commercial banks (Appendix I) fulfilled the data collection criteria and the research variables were obtained from audited financial statements of the banks. This period was considered adequate to obtain the necessary information considering the data analysis involved.

3.4 Sample and Sampling Procedure

This study was a census of all commercial banks in Kenya, for an individual bank to qualify it needed to have operated throughout the set period of study. Given the population of the subjects of study all the commercial banks were studied due to the manageable numbers involved and sampling was not necessary.

3.5 Data Collection

The study employed secondary data collection. The study variables were deduced from the audited financial statements of the commercial banks in Kenya for the financial periods 2008 to 2012. Data was collected for the commercial banks were in operation in this period and this ensured completeness and consistency of the study elements.

3.6 Data Analysis

The data was extracted from the audited financial statements of these commercial banks. The research was quantitative in nature. The data was analyzed through descriptive statistics such as percentages. The analysis was on the profitability versus liquidity among Commercial Banks. Regression analysis was used to establish the nature and if any relationship exists between the study variables. To achieve the objectives of this study, a model was developed using profitability as the dependent variable and liquidity as the independent variable. The data analysis was followed by data interpretation of the results of the analysis.

3.7 Models Specification

To analyze the relationship between profitability and liquidity of commercial banks in Kenya, regression technique and correlation were used to establish whether a relationship exists or not and the extent of such a relationship. The estimated regression model that was used to examine the effect of liquid assets held on profitability (ROA) is as below;

Profitability (Y) = $\beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$

Where

Y = Return on Assets which is as a percentage of net income divided by average total assets.

B_0= Represents the factor affecting profitability when ROA is zero.

X_1 = Current ratio which is the ratio of current assets to the current liabilities.

X_2 = CBK liquidity ratio which is the percentage of net liquid assets as a proportion of net deposit liabilities..

ε = Random error term

$\boldsymbol{\beta}$ = Coefficients of the variables

The various variables were extracted from the published financial statements and other relevant publications by CBK for the period which was being studied. Of interest was Statement of Financial Position and Statement of Comprehensive Income.

The variables were computed as follows:-

Y = Represents the profitability of the bank which is the dependent variable and it is measured by Return on Assets. ROA was computed as a percentage of net income divided by average total assets.

$$\text{Return on Assets} \quad ROA \quad = \frac{\text{Net Income}}{\text{Total Average Assets}} * 100\%$$

β_0 = The independent proportion of profitability that is not affected by the liquid assets.

X_1= Current ratio of the bank. It measures the amount of liquid and near liquid resources available, it also measure the short-term debt paying ability of a firm.

$$CurrentRatio\ (X_1) = \frac{\text{Current Assets}}{\text{Current Liabilities}}$$

Net assets comprise of notes and coins (local and foreign), balances with CBK, balances with domestic commercial banks, balances with banks abroad, balances with financial institutions, balances with mortgage firms, balances with building societies, short term portion of loans, treasury bills treasury bonds and bills, certificates of deposit and government bearer bonds and foreign currency bearer certificates. Net liabilities comprise of deposits from customers, deposit from other sources and balances due to banks, other financial institutions, mortgage finance companies and building societies.

X_2= CBK liquidity ratio. This ratio is the percentage of net liquid assets as a proportion of net deposit liabilities. According to CBK prudential guidelines 2013, holding of minimum assets may be determined from time to time by the CBK. This ratio is the percentage of net liquid assets (notes and coins {local and foreign}, balances with CBK, balances with domestic commercial banks, balances with banks abroad, balances with financial institution, balances with mortgage finance companies, balances with building societies, treasury bills treasury bonds, certificate of deposit/government bearer bonds and foreign currency bearer certificates) as a proportion of net deposit liabilities(deposits

from parastatals, deposit from other sources, balances due to banks, balances due to financial institutions, balances due to mortgage companies and balances due to building societies). Currently an institution is required to maintain a statutory minimum of twenty per cent (20%) of all its deposit liabilities, matured and short term liabilities in liquid assets.

$$CBKLiquidityRatio\ (X2) = \frac{\text{Net Liquid Assets}}{\text{Net Deposit Liabilities}} * 100\%$$

ε = Represents a random error term and takes care of all other factors that affect profitability which are not in the model.

β_1 β_2 = these represent beta values which provide the change in the dependent variable associated with a unit change in the independent variable. These values will be estimated.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter deals with data analysis and presentation of the findings of the study as set out in the research methodology. 29 banks were used and data about the variables were collected over five year duration from 2008 to 2009. The data gathered was secondary data statements of financial position, statement of comprehensive income and disclosure notes from the financial statements. The data has been analyzed through multiple regression analysis. The chapter concludes with a summary of the analysis of the findings from the study.

4.2 Response Rate

The target population of was all commercial banks in operations during the five year period of study 2008 to 2012. 4 banks were eliminated since they were not in operation over the whole period of study. 11 banks were eliminated since all the information for the study period was not available in time for the study therefore not consistent. The study obtained data of a total of 29 banks out of the eligible 40 and this represents 73% response rate which is sufficient to draw conclusions.

4.3 Data Analysis and Interpretation

4.3.1 Descriptive Statistics

The study aimed at establishing the relationship between the profitability and liquidity of commercial banks. The average profitability and liquidity are compared over the period of study

Table 4.1: Descriptive Statistics

	ROA	Current Ratio	CBK Liquidity Ratio
Mean	2.90	0.94	37.50
Standard Deviation	2.33	0.35	7.62
Range	14.53	1.52	36.00
Minimum	(7.13)	0.22	22.00
Maximum	7.40	1.74	58.00
Count	145.00	145.00	145.00

Source: Author 2013

Of the commercial banks studied, the mean ROA was 2.90% suggesting that commercial banks have relatively average return on assets. With a maximum of 7.40%, a range of 14.53% and standard deviation of 2.33%, the implication is that commercial banks profitability varies significantly hence the conclusion that liquidity levels affect the return on assets for commercial banks.

The descriptive statistics for current ratio indicate a mean of 0.94, a standard deviation of 0.35 and a range of 1.52. This implies that the current ratio for commercial banks vary significantly and this is also reflected in the variation of the return on assets analysed above.

CBK liquidity ratio exhibit similar characteristics to ROA and current ratio for commercial banks. The average ratio is 37.50% with a standard deviation of 7.62% and a range of 36%. The statistics indicate large variations between the liquidity ratio of various commercial banks in the study.

From the descriptive analysis above the study variables depict a similar pattern of large variation between the various commercial banks studied. The consistent results indicate that the study variables depict a positive relationship implying that the profitability of commercial banks has a positive relationship with the liquidity of commercial banks.

4.3.2 Regression Analysis and interpretation

A multivariate regression model was applied to determine the relationship between profitability and liquidity of commercial banks in Kenya. The regression model used is:

$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \varepsilon$

Where

Y = ROA which is as a percentage of net income divided by average total assets.

B_0= Represents the factor affecting profitability when ROA is zero.

X_1 = Current ratio which is the ratio of short term assets to the short term liabilities.

X_2 = CBK liquidity ratio as defined in the CBK prudential guidelines.

ε = Random error term

β = Coefficients of the variables

Table 4.2 Model Summary

Model	R	Number of Observations	R^2	Adjusted R square	Std. Error of the Estimate
1	0.1439	145	0.0207	0.0069	2.3176

Source: Author 2013

Predictors: (constant), current ratio and CBK liquidity ratio

R^2 is the coefficient of determination which tells us how ROA varies with changes in current ratio and CBK liquidity ratio. From the table above the value of R^2 is 0.0207. This implies that 2.07% of profitability of commercial banks is as a result of variation in current ratio and CBK liquidity level at a confidence level of 95%. This means that 97.93% of the profits of commercial banks are attributable to other factors other than liquidity levels in the bank. The R is the correlation coefficient which shows the nature of relationship between the ROA and current ratio and CBK liquidity ratio. From the results above R is 0.1439 which indicate a weak positive relationship between ROA and current ratio and CBK liquidity ratio.

Table 4. 3 ANOVA Analysis

	df	Sum of Squares	Mean of Squares	F	Significance F
Regression	2	16.11658093	8.05829	1.500225	0.226594033
Residual	142	762.7369337	5.371387		
Total	144	778.8535146			

Source: Author 2013

P values corresponding F calc value of 1.500225 is 0.226594033 which is more than 0.1 and therefore the variables are statistically low and therefore insignificant.

Table 4.4 Coefficient results

Model	Coefficient			
1	B	Std Error	t Value	P-Value
Constant	1.39316	1.01386	1.37411	0.17157
Current Ratio	0.71752	0.56172	1.25943	0.20994
CBK liquidity Ratio	0.02215	0.02611	0.84842	0.39763

Source: Author 2013

The coefficients of the variable are positive for both Current ratio and CBK liquidity ratio; this implies a positive relationship between the ROA and the Current Ratio and CBK liquidity ratio. The constant coefficient is 1.39316 this implies that when Current ratio and CBK liquidity Ratio are zero the ROA is1.39%.

The regression equation that estimates the relationship between profitability and liquidity is as below.

ROA= 1.39316+ 0.71752Current Ratio + 0.02215CBK Liquidity ratio + 1.60968

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.

5.1 Introduction

This chapter provides the summary of findings from chapter four and also gives the conclusions, limitations and recommendations of the study based on the objectives of the study. The objective of the study was to establish the relationship between profitability and liquidity of commercial banks in Kenya.

The study used secondary data from financial statements of the banks for the years 2008 to 2012 and measured profitability through ROA and liquidity through current ratio and CBK liquidity ratio.

5.2 Summary of Findings

From the data analysis in chapter four, there exist a positive relationship between profitability and liquidity for commercial banks as represented by the positive values of R from the regression analysis. Liquidity is one of the factors that determine profitability of commercial banks as represented by the positive values of R^2

5.3 Conclusion

The data analysis results in chapter four indicate that liquidity is one of the determinants of profitability of commercial banks. The relationship between ROA and current ratio and the CBK liquidity ratio is positive implying that an increase in liquidity will lead to an increase in profitability of commercial bank. The proportion of profitability that is

determined by the liquidity of commercial bank is low as established from the results of the years of study.

The results of this study conclude that profitability and liquidity have a positive relationship and that liquidity is one of the determinants of profitability of commercial banks. However from the results of the study liquidity is not a significant determinant of commercial banks' profitability but one of the determinants of it.

5.4 Limitations of the Study

During the study several conditions reduced the efficiency with which the research work was done. The financial statements of some commercial banks were not available in time for the study to be conducted and this reduced the sample items from which the data was collected. Additionally the information provided in the financial statements was not in a standard format and additional time was required to put the information in a standardized presentable format for consistency of the information.

The study was only done in Kenya and therefore the results are limited to Kenya and may not be applicable to other countries with a different operating environment. The uniqueness of the operating environment may hinder application of these results in other countries where the environment is different.

The study was carried out over a period of 5 years covering 2008 to 2012; this period may not be enough to draw conclusions as major economic fluctuations may influence

the economic performance of the commercial banks and therefore wrong conclusions may have been arrived at during this study.

5.5 Recommendations

The study results conclude that there is a positive relationship between the profitability and liquidity of commercial banks in Kenya. As a result the study recommends that the banking industry regulator, CBK, maintain the regulation over the minimum liquidity of commercial banks which is currently at 20% as this have an impact on the profitability of commercial banks and therefore the long and short term stability of the entire systems.

The finance managers should pay attention to the liquidity of commercial banks as one of the determinants of profitability. Profitability and liquidity reinforce each other and therefore finance managers should not consider the two variables as independent.

5.6 Suggestions for Further Studies

It would be interesting to carry out a study in other industries and establish the relationship between profitability and liquidity. This study focused on commercial banks since there is a regulatory requirement that require a certain level of liquidity maintained by the commercial banks and therefore a study in other industries where there are no such restrictions would be interesting to carry out.

This study suggests a cross border study be carried out involving other countries in order to determine the impact of different economic and operating factors on the relationship

between the two variables. Additionally a study on the relationship between the various levels of liquidity maintained by commercial banks and the level of profitability would provide an insight as how the liquidity level affects profitability of commercial banks

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APPENDIX 1–List of Commercial Banks in Kenya

1) African Banking Corporation Ltd
2) Bank of Africa (K) Ltd
3) Bank of Baroda (K) Ltd
4) Bank of India
5) Barclays Bank of Kenya Ltd
6) CFC Stanbic Bank Ltd
7) Charterhouse Bank Ltd
8) Chase Bank (K) Ltd
9) Citibank N.A.
10) Commercial Bank of Africa Ltd
11) Consolidated Bank of Kenya Ltd
12) Co-operative Bank of Kenya Ltd
13) Credit Bank Ltd
14) Development Bank of Kenya Ltd
15) Diamond Trust Bank (K) Ltd
16) Dubai Bank Kenya Ltd
17) Ecobank Kenya Ltd
18) Equatorial Commercial Bank Ltd
19) Equity Bank Ltd
20) Family Bank Ltd
21) Fidelity Commercial Bank Ltd
22) Fina Bank Ltd
23) First Community Bank Ltd
24) Giro Commercial Bank Ltd
25) Guardian Bank Ltd
26) Gulf African Bank (K) Ltd
27) Habib Bank A.G Zurich
28) Habib Bank Ltd
29) Housing Finance Co. of Kenya Ltd
30) I&M Bank Ltd
31) Imperial Bank Ltd
32) Jamii Bora Bank Ltd
33) Kenya Commercial Bank Ltd
34) K-Rep Bank Ltd
35) Middle East Bank (K) Ltd
36) National Bank of Kenya Ltd
37) National Industrial Credit Bank Ltd
38) Oriental Commercial Bank Ltd
39) Paramount Universal Bank Ltd
40) Prime Bank Ltd
41) Standard Chartered Bank (K) Ltd

42) Trans-National Bank Ltd.
43) UBA Kenya Bank Ltd
44) Victoria Commercial Bank Ltd

APPENDIX II–Raw data

Raw data 2008

		Return on Assets			Liquidity			
		Profit Before Tax (Shs. M)	Total Assets (Shs. M)	ROA	Shortterm Assets (Shs. M)	Shortterm Liabilities (Shs. M)	Current Ratio	CBK Liquidity Ratio (%)
	Bank Name	**a**	**b**	**(a/b)%**	**c**	**d**	**(c/d)**	
1	African Banking Corporation Ltd	224	6,826	3.3	2,964.63	2,812.97	1.05	33.28
2	Bank of Africa (K) ltd	93	12,823	0.7	16,624.10	20,794.85	0.80	28.30
3	Barclays Bank Kenya Ltd	8,016	172,113	4.7	133,996.00	94,957.00	1.41	32.72
4	Chase Bank Ltd	247	10,477	2.4	9,073.55	7,657.30	1.18	22.00
5	Consolidated Bank of Kenya Ltd	85	5,543	1.5	2,258.55	3,747.68	0.60	24.00
6	Cooperative Bank of Kenya Ltd	3,337	91,022	3.7	13,694.41	55,468.22	0.25	28.86
7	Credit Bank Ltd	79	3,803	2.1	1,909.84	1,306.14	1.46	50.20
8	Development Bank of Kenya Ltd	171	6,634	2.6	4,027.22	4,103.83	0.98	32.40
9	Diamond Trust Bank Ltd	1,305	42,073	3.1	41,592.05	34,727.04	1.20	41.30
10	Ecobank Kenya Ltd	67	12,589	0.5	4,124.31	6,841.80	0.60	34.52
11	Equatorial Commercial Bank Ltd	(8)	4,477	(0.2)	4,297.07	3,734.49	1.15	43.97
12	Equity Bank Ltd	4,757	78,001	6.1	29,177.00	18,209.00	1.60	57.00
13	Family Bank Ltd	531	10,713	5.0	5,180.37	4,410.54	1.17	37.95
14	Fidelity Commercial Bank Ltd	73	4,397	1.7	2,961.23	3,646.69	0.81	27.00
15	Fina Bank Ltd	82	10,201	0.8	8,732.37	8,384.05	1.04	38.20
16	Giro Commercial Bank Ltd	126	6,154	2.0	3,042.75	4,965.64	0.61	42.00
17	Housing Finance Company of Kenya Ltd	196	15,601	1.3	4,572.42	5,900.38	0.77	27.35
18	I&M Bank Ltd	1,620	37,022	4.4	16,027.66	13,137.05	1.22	24.83
19	Imperial Bank Ltd	673	13,780	4.9	12,851.32	9,249.29	1.39	25.00
20	Kenya Commercial Bank Ltd	5,394	181,974	3.0	96,558.02	170,117.77	0.57	33.47
21	K-Rep Bank Ltd	(472)	8,431	(5.6)	3,541.89	3,421.87	1.04	27.50
22	Middle East Bank (K) Ltd	30	3,448	0.9	3,198.64	3,078.76	1.04	38.60
23	National Bank of Kenya Ltd	1,797	44,588	4.0	18,781.76	34,396.45	0.55	30.00
24	NIC Bank Ltd	1,474	43,609	3.4	40,562.62	35,948.99	1.13	26.00
25	Oriental Commercial Bank Ltd	68	2,774	2.5	1,645.31	1,598.89	1.03	41.00
26	Prime Bank Ltd	460	20,455	2.3	9,336.08	7,430.78	1.26	40.80
27	Standard Chartered Bank (K) Ltd	4,709	100,392	4.7	51,667.84	43,831.08	1.18	58.00
28	Trans-National Bank Ltd	121	3,710	3.3	1,745.23	1,632.89	1.07	28.60
29	Victoria Commercial Bank Ltd	170	4,467	3.8	3,180.38	3,155.39	1.01	38.90

Note: Liquidity ratio is obtained directly from the financial statements as it's a required disclosure by CBK

Raw data 2009

		Return on Assets			Liquidity			
		Profit Before Tax(Shs. M)	Total Assets (Shs. M)	ROA	Shortterm Assets (Shs. M)	Shortterm Liabilities (Shs. M)	Current Ratio	CBK Liquidity Ratio %
	Bank Name	a	b	(a/b)%	c	d	(c/d)	
1	African Banking Corporation Ltd	257	9,118	2.82	3,596.96	3,213.36	1.12	44.30
2	Bank of Africa (K) ltd	260	16,978	1.53	8,680.93	6,629.90	1.31	29.30
3	Barclays Bank Kenya Ltd	9,002	169,788	5.30	146,004.00	93,938.00	1.55	43.01
4	Chase Bank Ltd	318	13,169	2.41	10,498.05	8,892.49	1.18	33.00
5	Consolidated Bank of Kenya Ltd	117	7,565	1.55	3,940.76	5,949.61	0.66	29.00
6	Cooperative Bank of Kenya Ltd	3,727	114,234	3.26	37,157.28	94,007.65	0.40	34.06
7	Credit Bank Ltd	83	3,840	2.16	2,117.11	1,261.35	1.68	53.20
8	Development Bank of Kenya Ltd	188	8,289	2.27	4,318.61	5,189.23	0.83	38.00
9	Diamond Trust Bank Ltd	1,634	47,509	3.44	40,273.05	40,204.17	1.00	33.60
10	Ecobank Kenya Ltd	(1,151)	16,134	(7.13)	10,201.05	7,835.76	1.30	38.03
11	Equatorial Commercial Bank Ltd	77	4,528	1.70	4,315.15	3,702.03	1.17	35.86
12	Equity Bank Ltd	5,570	98,434	5.66	29,223.00	22,970.00	1.27	32.00
13	Family Bank Ltd	343	13,683	2.51	5,869.79	5,158.72	1.14	37.30
14	Fidelity Commercial Bank Ltd	52	5,539	0.94	3,329.34	4,276.54	0.78	33.80
15	Fina Bank Ltd	23	12,836	0.18	15,521.43	15,390.12	1.01	36.23
16	Giro Commercial Bank Ltd	185	7,026	2.63	3,417.30	5,868.67	0.58	43.67
17	Housing Finance Company of Kenya Ltd	354	19,342	1.83	3,519.37	12,897.70	0.27	26.00
18	I&M Bank Ltd	1,752	44,486	3.94	20,059.34	15,710.69	1.28	43.68
19	Imperial Bank Ltd	802	15,755	5.09	12,851.32	9,249.29	1.39	29.00
20	Kenya Commercial Bank Ltd	6,426	180,041	3.57	75,790.67	168,898.03	0.45	29.44
21	K-Rep Bank Ltd	(289)	7,685	(3.76)	3,615.76	3,145.67	1.15	29.00
22	Middle East Bank (K) Ltd	44	3,177	1.38	3,512.98	3,433.54	1.02	41.30
23	National Bank of Kenya Ltd	2,159	52,327	4.13	21,255.78	42,045.71	0.51	32.00
24	NIC Bank Ltd	1,529	46,326	3.30	44,355.63	40,556.77	1.09	34.00
25	Oriental Commercial Bank Ltd	33	3,421	0.96	1,599.25	2,068.81	0.77	43.00
26	Prime Bank Ltd	564	24,173	2.33	17,553.76	17,500.62	1.00	46.40
27	Standard Chartered Bank (K) Ltd	6,726	124,806	5.39	80,330.05	50,748.52	1.58	45.00
28	Trans-National Bank Ltd	88	3,705	2.38	1,844.56	1,695.87	1.09	26.75
29	Victoria Commercial Bank Ltd	216	5,130	4.21	3,829.46	4,195.57	0.91	33.37

Note: Liquidity ratio is obtained directly from the financial statements as it's a required disclosure by CBK

Raw data 2010

		Return on Assets			Liquidity			
		Profit Before Tax (Shs. M)	**Total Assets (Shs. M)**	**ROA**	**Short term Assets (Shs. M)**	**Short term Liabilities (Shs. M)**	**Current Ratio**	**CBK Liquidity Ratio %**
	Bank Name	**a**	**b**	**(a/b)%**	**c**	**d**	**(c/d)**	
1	African Banking Corporation Ltd	480	10,297	4.67	3,788.86	3,647.43	1.04	40.95
2	Bank of Africa (K) ltd	484	26,699	1.81	12,188.93	10,936.82	1.11	37.30
3	Barclays Bank Kenya Ltd	10,775	172,691	6.24	151,640.00	101,184.00	1.50	51.53
4	Chase Bank Ltd	535	21,859	2.45	15,882.51	16,589.48	0.96	36.00
5	Consolidated Bank of Kenya Ltd	258	10,479	2.46	4,877.22	8,373.01	0.58	29.00
6	Cooperative Bank of Kenya Ltd	5,559	153,984	3.61	64,388.31	133,605.43	0.48	39.60
7	Credit Bank Ltd	34	4,530	0.74	2,593.21	1,625.32	1.60	55.60
8	Development Bank of Kenya Ltd	236	10,650	2.22	5,023.47	5,983.87	0.84	35.00
9	Diamond Trust Bank Ltd	2,872	58,606	4.90	46,595.91	48,764.70	0.96	35.80
10	Ecobank Kenya Ltd	188	26,892	0.70	15,564.58	15,917.74	0.98	57.60
11	Equatorial Commercial Bank Ltd	-34	10,399	(0.32)	5,645.52	9,273.23	0.61	39.10
12	Equity Bank Ltd	9,312	133,890	6.95	34,057.00	38,516.00	0.88	41.00
13	Family Bank Ltd	501	20,188	2.48	12,502.47	9,655.64	1.29	38.00
14	Fidelity Commercial Bank Ltd	377	8,209	4.59	10,847.60	17,833.00	0.61	34.80
15	Fina Bank Ltd	151	14,112	1.07	3,898.02	8,438.65	0.46	44.20
16	Giro Commercial Bank Ltd	634	10,234	6.20	3,898.02	8,532.12	0.46	44.26
17	Housing Finance Company of Kenya Ltd	560	29,326	1.91	7,263.31	16,946.16	0.43	30.19
18	I&M Bank Ltd	3,004	62,552	4.80	24,671.63	47,488.29	0.52	42.25
19	Imperial Bank Ltd	1,248	19,399	6.43	8,761.93	11,068.76	0.79	39.30
20	Kenya Commercial Bank Ltd	11,538	223,025	5.17	86,855.89	206,267.64	0.42	35.49
21	K-Rep Bank Ltd	111	7,670	1.44	3,917.00	3,239.84	1.21	30.00
22	Middle East Bank (K) Ltd	206	4,018	5.11	3,056.99	2,652.02	1.15	44.00
23	National Bank of Kenya Ltd	2,698	60,027	4.49	14,613.57	28,242.19	0.52	47.00
24	NIC Bank Ltd	2,416	54,776	4.41	53,042.23	49,197.70	1.08	30.00
25	Oriental Commercial Bank Ltd	183	4,558	4.01	2,143.75	3,414.02	0.63	42.00
26	Prime Bank Ltd	770	32,444	2.37	19,827.18	28,279.09	0.70	48.00
27	Standard Chartered Bank (K) Ltd	7,668	142,880	5.37	90,121.19	51,775.37	1.74	55.00
28	Trans-National Bank Ltd	159	4,762	3.33	1,917.19	2,630.00	0.73	42.00
29	Victoria Commercial Bank Ltd	311	6,215	5.00	4,199.26	4,425.70	0.95	33.63

Note: Liquidity ratio is obtained directly from the financial statements as it's a required disclosure by CBK

Raw data 2011

		Return on Assets			Liquidity			
		Profit Before Tax (Shs. M)	Total Assets (Shs. M)	ROA (Shs. M)	Shortterm Assets (Shs. M)	Shortterm Liabilities (Shs. M)	Current Ratio	CBK Liquidity Ratio %
	Bank Name	a	b	(a/b)%	c	d	(c/d)	
1	African Banking Corporation Ltd	515	12,507	4.12	5,853.44	4,518.93	1.30	34.64
2	Bank of Africa (K) ltd	555	38,734	1.43	20,943.44	28,905.30	0.72	44.00
3	Barclays Bank Kenya Ltd	12,013	167,305	7.18	150,999.00	98,711.00	1.53	40.10
4	Chase Bank Ltd	850	36,513	2.33	22,149.39	29,140.03	0.76	43.00
5	Consolidated Bank of Kenya Ltd	247	15,318	1.61	3,702.45	13,296.27	0.28	32.00
6	Cooperative Bank of Kenya Ltd	6,168	167,772	3.68	56,336.94	167,494.07	0.34	33.60
7	Credit Bank Ltd	51	5,394	0.95	2,468.23	2,073.57	1.19	41.30
8	Development Bank of Kenya Ltd	157	11,523	1.37	5,561.76	7,458.21	0.75	36.00
9	Diamond Trust Bank Ltd	3,248	77,453	4.19	88,806.74	65,244.92	1.36	35.70
10	Ecobank Kenya Ltd	121	27,210	0.45	17,486.55	21,750.83	0.80	48.57
11	Equatorial Commercial Bank Ltd	71	12,927	0.55	5,801.59	7,708.58	0.75	36.50
12	Equity Bank Ltd	12,104	176,911	6.84	43,662.00	55,509.00	0.79	37.00
13	Family Bank Ltd	523	26,002	2.01	4,694.05	21,240.06	0.22	34.00
14	Fidelity Commercial Bank Ltd	302	10,789	2.79	5,270.60	4,077.92	1.29	30.60
15	Fina Bank Ltd	310	14,630	2.12	14,996.85	19,655.58	0.76	34.90
16	Giro Commercial Bank Ltd	330	11,846	2.79	5,183.22	4,226.09	1.23	43.70
17	Housing Finance Company of Kenya Ltd	976	31,972	3.05	21,126.21	21,734.97	0.97	36.80
18	I&M Bank Ltd	4,457	76,903	5.80	35,162.15	60,210.02	0.58	37.83
19	Imperial Bank Ltd	1,632	25,618	6.37	12,503.87	10,385.57	1.20	33.60
20	Kenya Commercial Bank Ltd	14,082	282,494	4.98	122,873.83	266,825.75	0.46	28.20
21	K-Rep Bank Ltd	256	9,319	2.75	4,817.22	4,120.11	1.17	29.00
22	Middle East Bank (K) Ltd	92	4,639	1.99	3,365.25	3,257.34	1.03	42.40
23	National Bank of Kenya Ltd	2,444	68,665	3.56	22,746.25	55,468.10	0.41	37.00
24	NIC Bank Ltd	3,361	73,581	4.57	69,426.78	66,300.31	1.05	27.00
25	Oriental Commercial Bank Ltd	193	5,030	3.83	2,321.61	3,738.60	0.62	44.00
26	Prime Bank Ltd	1,081	35,185	3.07	19,305.76	14,119.38	1.37	42.30
27	Standard Chartered Bank (K) Ltd	8,251	164,182	5.03	85,783.52	65,584.01	1.31	34.00
28	Trans-National Bank Ltd	295	7,287	4.05	3,074.64	4,982.34	0.62	55.09
29	Victoria Commercial Bank Ltd	330	7,645	4.31	5,040.36	6,392.76	0.79	29.63

Note: Liquidity ratio is obtained directly from the financial statements as it's a required disclosure by CBK

Raw data 2012

		Return on Assets			Liquidity			
		Profit Before Tax (Shs. M)	Total Assets(Shs. M)	ROA	Shortterm Assets (Shs. M)	Shortterm Liabilities (Shs. M)	Current Ratio	CBK Liquidity Ratio
	Bank Name	a	b	(a/b)%	c	d	(c/d)	
1	African Banking Corporation Ltd	557	19,071	2.90	8,927.26	7,045.51	1.27	42.50
2	Bank of Africa (K) ltd	636	48,958	1.30	26,986.17	38,053.47	0.71	39.70
3	Barclays Bank Kenya Ltd	13,020	185,102	7.00	160,466.00	101,273.00	1.58	43.90
4	Chase Bank Ltd	1,316	49,105	2.70	30,882.22	35,848.90	0.86	38.00
5	Consolidated Bank of Kenya Ltd	176	18,001	1.00	3,940.76	5,949.61	0.66	29.00
6	Cooperative Bank of Kenya Ltd	9,574	199,663	4.80	88,478.04	195,296.82	0.45	29.30
7	Credit Bank Ltd	81	6,407	1.30	2,958.93	2,360.00	1.25	48.90
8	Development Bank of Kenya Ltd	104	13,417	0.80	6,690.86	7,611.67	0.88	46.00
9	Diamond Trust Bank Ltd	4,670	94,512	4.90	126,229.58	114,677.22	1.10	38.00
10	Ecobank Kenya Ltd	(1,534)	31,771	(4.80)	14,636.98	20,409.74	0.72	40.01
11	Equatorial Commercial Bank Ltd	(656)	14,109	(4.60)	6,664.99	9,812.92	0.68	30.70
12	Equity Bank Ltd	16,060	215,829	7.40	71,281.00	60,933.00	1.17	46.00
13	Family Bank Ltd	843	30,985	2.70	10,272.38	23,256.08	0.44	34.00
14	Fidelity Commercial Bank Ltd	102	11,772	0.90	6,089.11	4,082.80	1.49	34.30
15	Fina Bank Ltd	348	17,150	2.00	11,614.26	14,325.25	0.81	29.00
16	Giro Commercial Bank Ltd	207	12,280	1.70	6,037.26	10,504.79	0.57	55.05
17	Housing Finance Company of Kenya Ltd	902	40,686	2.20	12,834.40	15,985.24	0.80	29.10
18	I&M Bank Ltd	4,722	91,520	5.20	43,756.37	72,012.51	0.61	37.94
19	Imperial Bank Ltd	1,912	34,590	5.50	20,241.49	13,486.53	1.50	39.30
20	Kenya Commercial Bank Ltd	15,756	304,112	5.20	164,017.19	281,615.74	0.58	34.50
21	K-Rep Bank Ltd	306	9,546	3.20	4,895.68	4,029.09	1.22	28.00
22	Middle East Bank (K) Ltd	47	5,870	0.80	4,719.89	4,755.49	0.99	39.40
23	National Bank of Kenya Ltd	1,147	67,155	1.70	20,386.25	55,468.10	0.37	32.00
24	NIC Bank Ltd	4,311	101,772	4.20	95,750.67	86,891.15	1.10	35.00
25	Oriental Commercial Bank Ltd	114	6,220	1.80	3,092.35	4,834.52	0.64	45.00
26	Prime Bank Ltd	1,161	43,463	2.70	21,991.16	17,258.92	1.27	47.50
27	Standard Chartered Bank (K) Ltd	11,519	195,493	5.90	102,701.43	79,188.05	1.30	39.00
28	Trans-National Bank Ltd	322	8,801	3.70	4,675.74	7,380.44	0.63	40.45
29	Victoria Commercial Bank Ltd	491	10,323	4.80	7,404.42	7,974.01	0.93	37.79

Note: Liquidity ratio is obtained directly from the financial statements as it's a required disclosure by CBK