THE EFFECT OF LIQUIDITY ON THE MARKET VALUE OF COMMERCIAL BANKS LISTED AT THE NAIROBI SECURITIES EXCHANGE

BY

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DECLARATION

This research project is my original work and has never been presented for an award of diploma or a degree in this or any other university.

Signature…… Date……

Swabir Masoud Abdalla

REG: D61/60865/2011

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

Signature…… Date……

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DEDICATION

To my late lovely father, Masoud Abdalla Mohamed

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ABSTRACT

The objective of this study was to establish the existence of liquidity effect and its components on the market value of commercial banks listed at the Nairobi Securities Exchange. The study was a cross-sectional survey in which case the relationship between liquidity and market value of commercial banks listed at the NSE was determined. The dependent variable was the market value as measured through share prices while the independent variables were, cash position indicator, total deposit ratio, loan deposit ratio, liquidity ratio and earnings per share. Secondary data collection was employed to obtain the measures of these variables from the NSE data and audited financial statements of the commercial banks under this study. The period of this study was 2009 to 2013 which was considered adequate and for an individual bank to qualify it needed to have operated throughout this set period. Out of the 11 banks listed at the NSE only 10 qualified this criteria. Since the population was small a census study was preferred. Aided by SPSS analytical tool, multiple regression analysis was used to establish the existence of any relationship of the study variables and in testing of goodness of fit for the model R square, p-value and t-test at significance level of 5% were used. With R (correlation coefficient) of 95.2% the results indicated a very strong linear relationship between market value and liquidity. The components of liquidity showed varying relationship on the market value. The cash position indicator, total deposit ratio, loan deposit ratio and liquidity ratio indicated a negative relationship with market variable and statistically insignificant. Whereas the earnings per share relationship with the dependent variable, market value was positive and statistically significant. The study concludes that there exist a very strong relationship between liquidity and market value of the commercial banks listed at the Nairobi Securities Exchange. The study further concluded that earnings per share as a component of liquidity has a positive effect on the market value of these commercial banks thus for each unit increase on earnings per share will lead to a unit increase on the market value, while the remaining components of liquidity, a unit increase of these components will lead to a unit decrease on the market value. The study recommends investors to pay greater attention on the components of liquidity of listed commercial banks at the Nairobi Securities Exchange to give them an indication of the trend of the market value as reflected in the share prices. The study further recommends that other measure of market value should be examined to further prove these study findings.

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LIST OF ABBREVIATIONS

AASP	Average Annual Share Price
ANOVA	Analysis of Variance
CAR	Capital Adequacy Ratio
CBK	Central Bank of Kenya
CMA	Capital Market Authority
CPI	Cash Position Indicator
EBIT	Earnings before Interest and Tax
EPS	Earnings per Share
KSE	Karachi Stock Exchange
LDR	Loan to Deposit Ratio
LR	Liquidity Ratio
LSE	London Stock Exchange
NIM	Net Interest Margin
NPL	Non Performing Loan
NSE	Nairobi Securities Exchange
PEX	Palestine Exchange
ROA	Return on Assets
ROI	Return on Investment
SPSS	Statistical Package for Social Sciences
TDR	Total Deposit Ratio
TSLS	Two Stage Least Square
US	United States of America

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Liquidity is the ability of bank to fund increases in assets and meet obligations as they come due, without incurring unacceptable losses. Liquidity risk arises from the fundamental role of banks in the maturity transformation of short-term deposits into long-term loans (Vodova, 2013).Market value is defined as the current value of securities and registered according to the latest prices on the flimsiest higher market prices that can be sold securities in the market (Alrguibat, 2013).

Keynes (1964) noted that liquidity preference theory as the rate of interest at any time, being the reward for parting with liquidity, is a measure of the unwillingness of those who possess money to part with their liquid control over it. The rate of interest is the price which equilibrates the desire to hold wealth in the form of cash with the availability of cash. Santomera and Allen (1998) on the theory of financial intermediation cited that financial systems perform the function of reallocating the resources of the economics with surplus (savers) funds to economics units with funding needs (borrowers).

The formal credit markets in Kenya include commercial banks, historically; the formal credit market in Kenya has been dominated by commercial banks, which are the major suppliers of credit to households and private businesses. To enhance the efficiency of accessibility to funds and to improve access to a wider variety of services in the formal credit markets, Kenyan government implemented a number of financial sector reforms which included licensing of additional commercial banks and

other financial institutions, review of the Banking Act to widen the definition of banking beyond the commercial banks and removal of restrictive licensing policies and reducing the role of government in the financial sector. Kenya's financial sector was expected to result in efficient financial intermediation and make access to loanable funds easier for potential borrowers, thereby bringing about increased investments, higher productivity among all economic units in the economy, and creation of employment opportunities (Ambrose, 2013).

1.1.1 Liquidity

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.

Liquidity ratios are various balance sheet ratios which should identify main liquidity trends. These ratios reflect the fact that bank should be sure that appropriate, low-cost funding is available in a short time. This might involve holding a portfolio of assets than can be easily sold (cash reserves, minimum required reserves or government securities), holding significant volumes of stable liabilities (especially deposits from retail depositors) or maintaining credit lines with other financial institutions(Vodova, 2013).

1.1.2 Market Value

Market value is defined as the current value of securities and registered according to the latest prices on the flimsiest higher market prices that can be sold securities in the market (Alrguibat, 2013). The impact of financial statement information on capital markets indicators referred to as the value relevance studies (in the area of market-based accounting) is a well-documented area of research and the number of these

studies is large(Kothari, 2001). The main focus of the value relevance studies is to identify accounting items, and other variables that influence market prices or returns. Information is considered ‘‘value relevant’’ if stock price movements are associated with the release of such information. The value relevance is usually interpreted by the size of the coefficient of determination (adjusted R2) from regressions of stock price or returns on accounting and other information (Collins et al., 1997; and Dontoh et al., 2004).

Kane and Unal (1990) developed a model to investigate the structural and temporal variation in the market valuation of banking firms. In their model, they try to capture the hidden reserves of US banking firms. According to them capital (un-booked capital) exists whenever the accounting measure of a firm’s net worth diverges from its economic value. Such un-booked capital has on-balance-sheet and off balance-sheet sources. They argued that the accounting or book value of a bank’s capital represents a biased estimate of the market value of stockholders’ equity.Abuzayed et al. (2009) concluded that valuations derived from market prices can also be more accurate and timely than those derived from standard accounting sources.

1.1.3 Effect of Liquidity on Market Value

The relationship between the market and book values of equity in banks has attracted various researchers. Beaver et al. (1989) focused on the banking industry. They examined whether cross sectional differences in market to book ratios for bank equities are captured by supplemental disclosures with respect to default risk (non-performing loans) and interest rate risk (loan maturity) using a sample of 149 US banks in 1983. They found that non-performing loans and loan maturity variables

contribute in a statistically significant manner to an explanation of cross-sectional variation in market to book values. Nelson (1996) examined the relationship between bank market and book values and the reported fair value of assets and liabilities. He proposed that after controlling for future profitability, the fair value of securities is the only value that hasexplanatory power incremental to book value. Additionally, a small number of studies have attempted to provide an explanation for the gap between book and market values in banking.

Ittner and Larcker (1998) and Lambert (1998) noted that customer satisfaction and stock prices are significantly positively correlated. However, customer satisfaction cannot completely reflect the accounting book value of the bank. Dermine and Hillion (1992), examine the relationship between the market value of equity and book value of assets and liabilities for French banks over the years 1971-1981. They found that assets and liabilities subject to taxation are priced at a lower value and that demand deposits appear to provide rent. Baele et al. (2007), find some evidence of the relationship between diversification and market returns. They show that higher levels of diversification seem to be associated with slightly higher market returns.

Bank market and book values, as well as financial and economic performance, may also be influenced by two specific risk indicators, credit and insolvency risks. These types of risks may influence market value. The effect of credit risk on bank market value is obvious, a downside credit risk positively affect bank's market value. The main reason for this expected relationship is that the higher the credit risks the more the required rate of return by investors (discount rate used to calculate the present value of expected future cash flows). Banks are assumed to accurately forecast their

credit losses, and reflect their forecasting by seeking protection against loan-losses through their choice of appropriate provision for such losses (Abuzayed et al.,2009)

1.1.4 Commercial BanksListed atthe NSE

In Kenya there are 43 licensed Commercial banks. According to the NSE website 11 out of the 43 licensed banks are listed at the NSE as at end of year 2013.The regulation of banks is the responsibility of the Central Bank of Kenya. Maore (2006) noted that in Kenya, regulation of banks is the responsibility of the Central Bank of Kenya. The Banking Supervision Department carries out the function of supervising banks to ensure the liquidity, solvency, and proper functioning of a stable market based banking system. Further, to this, audited performance of the banking sector is measured in terms of capital adequacy, asset quality, liquidity, and earnings based on the Central Bank internal rating system. Under section 19 of the Banking Act in Kenya, an institution shall maintain a minimum holding of liquid assets as the Central Bank may from time to time determine. Currently an institution is required to maintain a statutory minimum of 20% of its deposit liabilities with the Central Bank (Guthua, 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 withdraw able 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

According to Keynes (1964) the motives underlying liquidity preference theory are transactions, speculative and precautionary motives to demand money. Santomera and Allen (1998) argued that the traditional theories of intermediation are based on transaction costs and asymmetric information. Thus Tehranian and Cornett (2004) noted that commercial banks exist because of the various services they provide to sectors of the economy such as liquidity services, transaction cost services, maturity intermediation services and payment services. The effect of a disruption in the provision of the various services on firms, households, and the overall economy when something goes wrong in the commercial banking sector makes a case for the need to monitor performance and market value and to impose regulations that in turn affect bank performance and market value.

Aloo (2007) carried out a study on a survey of liquidity management approach 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. 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.

Alrguibat (2013) carried a study on the impact of working capital on the market value and profitability of Jordanian Commercial Banks. The study revealed that there is no statistically significant effect of total factors collectively and individually on the market value. Similarly, Ogundipe et al. (2012) conducted a study to examine the impact of working capital management on the performance and market value of companies. The study used Tobin Q, ROA, EBIT, and ROI as the dependent variables while the independent variables were cash conversion cycle; current ratio; current asset to total asset ratio; current liabilities to total asset ratio; and debt to asset ratio. Using correlation and multiple regression analysis techniques, the study established that a significant negative relationship exists between cash conversion cycle and market valuation and a firm's performance. The study, however, only focused on short-term financing decisions.

From the empirical studies above it is evident that limited research work was carried out on effect of liquidity on market values for commercial banks in Kenya. Thus there was need to carry out a study in Kenya to establish the effect of liquidity on the market value of commercial banks listed at the NSE.The study therefore attempted to answer the following questions: Does liquidityhave effect on themarket value of commercial banks? Which component of liquidity affects the market value of commercial banks?

1.3 Objectives of the Study

The study sought to achieve the following objectives:

i. To establish the effect of liquidity on market value of commercial banks

ii. To identify the component of liquidity that affects market value of commercial banks.

1.4Value of the Study

The study will be useful for policy formulation to various stakeholders who attach importance to the stock market. Such stakeholders include: the government, investors, fund managers, financial analyst and academicians. The government as a regulator of the stock market though capital market authority (CMA) will be able to monitor the performance of the stock market as a sign of economic stability of the country. To improve the confidence of both local and international investors the efficiency of the NSE is paramount. It shall also provide policymakers with vital information that helps in decision making and formulation of sound investment strategies.

Fund managers are charged with the responsibility of identifying and investing in viable projects, findings of this study will help them gauge the performance of the stock market hence know the right time to commit funds. Financial analyst offer advice to investors, findings of the study will help them give sound information that will lead investors to make informed decisions. Knowledge of such critical information on market value portrayed by the stock prices variation may assist the financial analyst to plan well; when to trade and get abnormal return and when to hold in order to maximize return.

Academicians want to contribute to the body of knowledge; in this dynamic and complex world where variables are bound to change research is the only way to study

the same phenomenon over time. The study will therefore help in opening up opportunities for doing further research on effect of liquidity on market value.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This chapter focused on a review of literature on the effect of liquidity on the market value of commercial banks. Theories that form basis for the study, determinants of bank liquidity, market value, and empirical studies on the area and a summary of the literature are discussed.

2.2 Theoretical Review

Theories which were relevant for the study and which were discussed in this chapter were; the liquidity Preference Theory and the Theory of Financial Intermediation.

2.2.1 Liquidity Preference Theory

Keynes (1964) notes that liquidity preference theory in the general theory that the rate of interest at any time, being the reward for parting with liquidity, is a measure of the unwillingness of those who possess money to part with their liquid control over it. The rate of interest is the price which equilibrates the desire to hold wealth in the form of cash with the availability of cash.Keynes (1964) further noted that one needs money because one has expenditure plans to finance, or is speculating on the future path of theinterest rate, or, finally, because one is uncertain about what the future may have in store so it is advisable to hold some fraction of one's resources in the form of pure purchasing power. These motives became known as transactions-, speculative and precautionary motives to demand money.Keynes (1937a) emphasized in his debate with Ohlin in 1937, liquidity preference was a theory of choice between holding money idle and holding loans, being the role of the rate of interest to equalize the "attractions" of both.

According to Keynes (1964) what bankers are ordinarily deciding is, not how much they will lend in the aggregate but in what forms they will lend and in what proportions they will divide their resources between the different kinds of investment which are open to them.Banks' liquidity preferences describe their balance sheet strategies, not their demand for money, not even their demand for outside money. On the other hand, banks with liquidity preferences will not accommodate passively the demand for credit but will compare expected returns and liquidity premia of all purchasable assets.

2.2.2 Theory of Financial Intermediation

The theory of financial intermediation is rooted on the Fischerblack's (1970) paper 'Banking and interest rates in a world without Money'. Black (1970) imagined a world in which commercial banks and other financial institutions are free to offer checking and savings accounts on any terms they might want to set, and in which there are no reserve requirements. Current theories of economic role of financial intermediation build on the economics of imperfect information that began to emerge during the 1970s with seminal contribution of Akerlof(1970).Financial intermediaries exist because they reduce information and transaction costs that arise from an information asymmetry between borrowers and lenders, thus assist in the efficient functioning of markets, and any factors that affect the amount of credit channeled through financial intermediaries can have significant macroeconomic effects (Claus & Grimes, 2003).

Black (1970)is credited with ground breaking the theory of financial intermediation in his paper Banking and interest rates in a world without money'. He imagined a world

in which commercial banks and other financial institutions are free to offer checking accounts on any terms they might want to set and in which there are no reserve requirements. In this scenario banks could pay interest on demand deposits and might not choose to distinguish between demand deposits and time deposits. Because there would be no reserve requirements, hence there would be no reason for Federal Reserve open market operations.

2.3 Determinants of Bank Liquidity

The determinants of bank liquidity are bank specific factors, central bank's action, interbank's action, macroeconomic factors and financial crisis and changes in regulations.

2.3.1 Bank Specific Factors

Vodova (2013) suggested that commercial banks' liquidity is determined by bank specific factors which include size of the bank, profitability, capital adequacy and factors describing risk position of the bank.Study by Vodova (2011) showed that some indicators such as CAR (capital adequacy ratio), credit interest rate, NPL (non-performing loan), and interbank interest rate affect bank liquidity in Czech positively.

Despite changes and variation in individual bank liquidity holding, the total liquidity of banks in the system does not change. Nonetheless, the changes in individual bank affect the composition of liquidity. On the other hand, Ganley (2004) stated that some factors beyond central bank's authority such as payments to and from central bank and money demand determine liquidity in the bank.Saxegaard (2006) confirmed that bank hold excess liquidity for precautionary since the economy is in the liquidity trap condition. In such situation, the return of credit is usually lower than the cost for

intermediation. Consequently, banks prefer to invest their money in central bank securities.

2.3.2 Central Bank's Action

Based on Keister and Mc Andrew (2009) study, the amount of liquidity in the bank is determined by central bank action and not represents bank's behavior.Aspachs et al.(2005) conducted a research in UK banks liquidity using quarterly data of individual bank during 1985-2003. The result indicates that the greater the support of central bank during the liquidity crisis, they lessen excess liquidity hold by banks. Most banks in UK already hold counter cyclical liquidity by preserving lower liquidity during boom economy.

2.3.3 Interbank's Action

Acharya and Merrouche (2010) studied the effects of liquidity demand and settlement of banks in UK on interbank transaction before and after sub-prime crisis. This study shows that banks in UK held liquidity 30% higher after interbank market was terminated in August 9, 2007. This condition generated tight liquidity and triggered financial crisis. The policy to mitigate stress in interbank market and interest rate fluctuation has to be done by supervision, early stress test,recapitalization of troubled bank, and preserve liquidity higher than contingency liquidity buffer.

The liquidity measured by different liquidity ratios should be influenced by: behaviour of the bank on the interbank market – the more liquid the bank is the more it lends in the interbank market, interbank rate as a measure of incentives of banks to hold liquidity, monetary policy interest rate as a measure of banks' ability to provide loans to customers, share of loans on total assets and share of loan loss provisions on

net interest revenues, both as a measure of risk-taking behavior of the bank, where liquid banks should reduce the risk-taking behavior and bank size measured by logarithm of total bank assets (Vodova, 2013).

2.3.4Macroeconomic Factors

Shen et al. (2009) studied the determinants of liquidity risk by utilizing panel data in 12 countries. The result reflects that liquid asset, external financing, supervisory, regulation, and macroeconomic influence liquidity risk. In the country with market based financial system, liquidity risk correlates negatively to bank's performance. On the contrary, in the country with bank-based financial system, liquidity risk does not correlate to bank's performance.

Another study by Pontes and Murta (2010) using TSLS (two stage least square) demonstrated that credit growth, government bonds and financial crisis influence bank liquidity. High credit interest rate spurs impediments in intermediation that created liquidity mass in the banks.

Research by Bathaluddin et al. (2012) stated that fluctuation in banknotes demand, economic growth, cost of fund, and lag of liquidity significantly determine banks' behavior in Indonesia to hold excess liquidity. In this research, the precautionary liquidity is defined as the ratio of banks fund placed in central bank (as excess liquidity) to the deposit fund. Involuntary liquidity is the residual of precautionary liquidity estimation. Pontes and Murta (2012) studied that excess liquidity occurs as under-developed financial sector, less efficient interbank money market, less diversified financial market instruments, and high cost in intermediation encourage excess liquidity holding by banks.

In this research, liquid asset are cash, reverse repo, and commercial paper. Dependent variable is the ratio of liquid asset to total asset, or the ratio of liquid asset to total deposit. Explanatory variables are net interest margin (NIM), profit, credit growth, size, gross domestic product, and short run interest rate. Interest rate and gross domestic product have significant impact to liquidity and future financing opportunity. In addition, Berger and Bouwman (2009) designated that monetary policy does not have significant impact on big and middle bank groups which have market share around 90%. Conversely, monetary policy significantly influence small bank group. In addition, there is no difference between the impact of monetary policy during crisis or normal time.

2.3.5Financial Crisis and Changes in Regulations

The liquidity ratio as a measure of bank's liquidity assumed to be dependent on the exchange rate regime, the presence of prudential regulation, which means the obligation for banks to be liquid enough, the lending interest rate as a measure of lending profitability, the share of public expenditures on gross domestic product as a measure of supply of relatively liquid assets , the rate of inflation, which increases the vulnerability of banks to nominal values of loans provided to customers , the realization of a financial crisis, which could be caused by poor bank liquidity and the exchange rate regime, where banks in countries with extreme regimes (the independently floating exchange rate regime and hard pegs) were more liquid than in countries with intermediate regimes (Vodova, 2013).

Vodova (2011) noted that financial crisis, inflation, and economic growth negatively influence to bank liquidity. Unemployment, margin, interest rate, profitability, and

interest rate monetary policy, significantly have an effect on bank liquidity.The result of the study by Agénor et al.(2000) indicates that credit crunch in Thailand after financial crisis 1997, is generated by supply which induce involuntary excess liquidity.

2.4 Empirical Review

Alrguibat (2013) carried out a study on impact of working capital on the market value and profitability of Jordanian commercial banks. The researcher reached in this study in the basic premise of the first to the existence of the effect statistically significant for all components of working capital combined on the profitability of commercial banks, at the same time the study found an effect statistically significant for both monetary and portfolio of commercial paper discounted, while not there is the effect of portfolio securities on the profitability , to reach this goal research is divided into two parts, first the theoretical framework has been a review of the concepts of capital different , its importance , management of sources of funding in addition to its management of its components, while addressing the second part of this study, the analytical test hypotheses of the study, using analysis of simple and multiple regression depending on the program Statistical Package E-views.Did not show statistical results of the hypothesis of the second and there is no effect statistically significant for working capital a society or its components individually on the market value of the Jordanian commercial banks.

Similarly, Ogundipe et al. (2012) conducted a study to examine the impact of working capital management on the performance and market value of companies. The study used Tobin Q, ROA, EBIT, and ROI as the dependent variables while the independent variables were cash conversion cycle; current ratio; current asset to total asset ratio;

current liabilities to total asset ratio; and debt to asset ratio. Using correlation and multiple regression analysis techniques, the study established that a significant negative relationship exists between cash conversion cycle and market valuation and a firm's performance. The study, however, only focused on short-term financing decisions.

In another study, Vahid et al. (2012) investigated the impact of working capital management policies (aggressive and conservative policies) on the firms' profitability and value of listed companies in the Tehran Stock Exchange. The study used panel data and operationalized working capital management policy as conservative/aggressive. The results of the study show that application of a conservative investment policy and aggressive financing policy has a negative impact on a firm's profitability and value. The study adopted the model used by Nazir and Afza (2009) to investigate the relationship between the working capital management policies and profitability of firms listed in the Karachi Stock Exchange (KSE). In their study, Nazir and Afza (2009) found a negative relationship between a firm's profitability and its financing policies. Thus, firms that adopt an aggressive working capital policy generate a lower rate of return than those adopting a conservative working capital policy. The present thesis borrowed the operationalisation of working capital management as applied in the two studies since Kenya has a different economic setting from Iran and India where the two studies were carried out.

Awad and Al-Ewesat (2012) did a study in Palestine where they investigated the impact working capital had upon stock prices in the Palestinan Exchange (PEX). They conducted this study through testing different working capital indicators with

extracted from the financial reports of the companies on the PEX. The variables they used within the study to measure the working capital was the current ratio, receivables turnover and inventory turnover and for the measure of the stock price they used the earnings per share as the indicator. They tested this through regression analysis and econometric techniques of Unit root test, co-integration and granger causality test. The findings of this research were that for firms listed on the PEX the working capital components was affecting the stock price.

Sabri (2012) did a study entitled the impact of working capital, characteristics of the company's profitability and market value, an empirical study on industrial companies listed on the Amman stock exchange. The aim of the study was to examine the relationship between working capital and the profitability of the company, with working capital and the value of the company on the other hand. It also aimed to research the differences between companies that have high cash conversion cycle, and companies that have a low cash conversion cycle in terms of profitability and value. To achieve the objectives of the study sample was selected from the Jordanian industrial companies that listed in Amman Stock Exchange. Also study covered the period from 2000 to 2009, used regression analysis, Mann-Whitney test to test hypotheses. The results showed that the average cash conversion cycle is equal to 2.9 days, and that working capital is 51% of total assets, also showed the presence of the opposite effect with statistical significance of the cash conversion cycle, and the accounts receivable and debt on profitability. As for the payables period was adversely impact the results showed a positive and significant impact statistically to the size of the company and sales growth on profitability.

Abuzayed et al. (2009) studied market value, book value and earnings: is bank efficiency a missing link? The objective was to examine whether earnings and its components are relevant and sufficient to bridge the gap between banks' market and book values, and also considers if bank efficiency is value relevant for banks valuation. The paper followed the value relevance literature methodology which tested for the difference between book and market values using a variety of indicators. The main findings were twofold. First it was found that earnings are value relevant and explain the gap between market and book values. Secondly, cost efficiency, as an economic performance measure, provides incremental information, not contained directly in banks financial statements, to the market. These results supported the view that stock prices aggregate signals received by the market as well as from firm's accounting systems.

2.5 Summary of Literature Review

A study was carried out on the impact of working capital on the market value and profitability of Jordanian Commercial Banks. The study did look at the effect of the components of working capital and how they affect market value. The definition of working capital by the Jordanian Commercial Banks is noted to be different to how the Central Bank of Kenya sets out the definition, determination and composition of liquidity. Other studies carried out was on the impact of working capital management on the performance and market value of companies. This study carried out in Nigeria was looking at all the companies thus the context of the study is different to what now the researcher is focusing on the listed commercial banks at the NSE. In Kenya studies were carried out but mostly covering effect of liquidity on performance of firms or commercial banks listed at the NSE.

Studies done by many scholars indicated in the literature review do point out that indeed market value is affected by working capital of commercial banks the same was also noted to other sector of the economy. In Kenya many studies on liquidity were to establish whether a relationship existed between liquidity and profitability for banks and a few on working capital effects on market value of just firms, therefore there is need to carry out more research of banks' liquidity effect on its market value.

All the empirical studies on the liquidity effects on market value of commercial banks covered in the literature review were done in other countries. In Kenya studies were undertaken to establish if there exist any relationship between liquidity and profitability of commercial banks listed in the NSE, thus this study seeks to fill the gap by examining the effect of liquidity on market value of commercial banks listed at the NSE.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This chapter discussed the research design and methodology of the study; it highlighted a full description of the research design, the research variables and provided a broad view of the description and selection of the sample and population. The research instruments, data collection techniques and data analysis procedure were also pointed out.

3.2 Research Design

The study wasa cross sectional survey. In this case, the relationship between market value and liquidity of all commercial banks of Kenya listed at the NSE was determined. Thedependent variable wasmarket value as measured through share price while the independent variable was liquidity ratios' components as computed from the financial statements of the commercial banks under study.

3.3 Study Population

The population of interest in this study comprised of 1llisted commercial banks in Kenya at the NSE as at end of year 2013.For an individual bank to qualify it needed to have operated throughout the set period of study. 1 bank was eliminated since it was not in operation over the whole period. The eligible banks qualifying this criteria were 10 banks. The period of study was between years 2009 and 2013 which was considered to be adequate to obtain the necessary information considering the data analysis involved. Since the population was small, a census study was preferable (Appendix 1).

3.4 Data Collection

The study employed secondary data collection. The study variables were deduced from the audited financial statements of the commercial banks in Kenya listed in the NSE for the financial periods 2009 to 2013. Data was collected for the 10 commercial banks that were in operation in this period of study and this ensured completeness and consistency of the study elements.

3.5 Data Analysis

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

The study borrowed the regression model as used by Al-Ewesat and Awad (2012) in regards to determine the metric relationship between market value (dependent variable) and liquidity (independent variable). The model was used by Al-Ewesat and Awad (2012) for better understanding of the factors influencing working capital behavior as reflected in the WCR. But for the purpose of this study the factors influencing liquidity behavior as reflected in the liquidity ratio as outlined in the CBK Prudential Guidelines (2013) will be used. The required ratios are:

$Y = a + k_1x_1 + k_2x_2 + k_3x_3 + k_4x_4 + k_5x_5$

Where

Y = dependent variable: Annual average share price

a: constant (Y intercept),

X_1 = cash position indicator

X_2 = total deposit ratio

X_3 = loan to deposit ratio

X_4 = liquidity ratio

X_5 = earnings per share (EPS)

3.5.1Measurement Variables

Market value was the dependent variable in the regression equation and was determined by the average annual share prices at the NSE. The average annual share price was determined by dividing the daily share prices by the number of trading days of the year.

Cash position indicator will be used to compare vault cash and demand deposits at other banks including the CBK to the total asset base of the institution:

$$\text{Cash Position Indicator} = \frac{\text{Cash and deposits due from banks}}{\text{Total assets}}$$

This ratio ranges between 0 and 1, where a larger proportion of cash implies that the institution is in a stronger position to handle immediate cash needs.

A large base of retail deposits would be evidenced by a high total deposit ratio.

$$\text{Total Deposit Ratio} = \frac{\text{Total customer deposits}}{\text{Total assets}}$$

The higher the total deposit ratio, the lower is the perceived liquidity risk because contrary to purchased funds, retail deposits are less sensitive to a change in interest rates or a minor deterioration in business performance.

Loan to deposit ratio will be used to monitor loan to deposit ratios as a general measure of liquidity.

$$\text{Loan to Deposit Ratio} = \frac{\text{Net Loans}}{\text{Total deposits}}$$

Loans are presumably the best least liquid of assets, while deposits are understood as the primary source of funds. A high ratio indicates illiquidity, because in this case a bank is fully loaned- up relative to its stable funding. Implicitly, it is assumed that new loans must be financed with large purchased liabilities. A low ratio suggests that a bank has additional liquidity, since it can grant new loans financed with stable deposits.

This ratio will be taken from the published financial statements. It is a requirement as per the CBK prudential guidelines that liquidity ratio must have been computed and must have met their outlined regulations.

Earnings per share is a general indicator of performance and will be taken as reflected in the published financial statements.

Descriptive statistics was used to describe the data, while examining the goodness of fit for the modelcoefficient of determination and t– test was conducted to test its

significance at 5%. In determining whether or not dependent variable was affected by independent variables the goodness of fit of the model was examined.

CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter highlighted the descriptive statistics results on the effect of liquidity on the market value of commercial banks, determination of how well the model fits, statistical significance, estimated model coefficient and statistical significance of the independent variables.

4.2Descriptive 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

	N	Minimum	Maximum	Mean	Std. Deviation
Average Annual Share Price	50	8.250	291.970	54.779	59.511
Total Deposit Ratio	50	.480	.850	.725	.104
Cash Position Indicator	50	.000	.270	.075	.061
Loan to Deposit Ratio	50	.310	60.440	2.463	9.041
Liquidity Ratio	50	.200	.680	.358	.094
Earnings Per Share	50	.850	29.420	6.555	6.896

Of the commercial banks studied, the mean AASP was 54.8% suggesting that commercial banks have average market value due to liquidity. With a maximum of 291.97 and standard deviation of 59.5%, the implication is that commercial banks market value varies significantly hence the conclusion that liquidity levels affect the market value ofthe commercial banks.

4.3Regression Model Results

The regression results have been categorized into the following results that determine how the model fits, regression model, statistical significance of the independent variable and statistical significance of the overall regression model.

4.3.1Determination of How the Model Fits

The second table of interest is the model summary table. This table provides R, R square, adjusted R square and the standard error of the estimate, which can be used to explain how the regression model fits the data which also imply the effect of liquidity on the market value of commercial banks.

Table 4.2: Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.952[a]	.906	.895	19.2971149

a. PREDICTORS: (Constant), EARNINGS PER SHARE, CASH POSITION INDICATOR, LIQUIDITY RATIO, LOAN TO DEPOSIT RATIO, TOTAL DEPOSIT RATIO
b. DEPENDENT VARIABLE: Average Annual Share Price

The “R” column represents the value of R, the multiple correlation coefficients. R can be considered to be one measure of the quality of the prediction of the dependent variable in this case the market value. From the table R is 0.952 which imply a good level of prediction. The “R square” column represents the coefficient of determination which explains the proportion of variance in the dependent variable that can be explained by the independent variable that istechnically, it is the proportion of variation accounted for by the regression model. From the table above R square is 0.906 implies that the liquidity variables explains 96.9% of the variabilityof the market value.

Table 4.3: Regression Analysis

MODEL	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	68.452	36.421		1.879	0.067
Cash Position Indicator	-129.387	70.492	-0.132	-1.835	0.073
Total Deposit Ratio	-52.388	40.293	-0.091	-1.3	0.2
Loan to Deposit Ratio	-0.042	0.331	-0.006	-0.127	0.9
Liquidity Ratio	-54.526	30.736	-0.086	-1.774	0.083
Earnings Per Share	8.175	0.419	0.947	19.511	0

a. Dependent Variable: Average Annual Share Price

The general form of equation to predict the market value of the commercial banks is shown as follows:

$Y = 68.452–129.381x_1–52.388x_2–0.042x_3–54.526x_4 + 8.175x_5$

This is obtained from the coefficient table 3 above.

The unstandardized coefficient indicate how much the market value variable varies with the liquidity and its components when the other variables are held constant. For instance unstandardized coefficient, k_1x_1 (Cash Position Indicator) is -129.387, this means that for each increase in the cash position indicator], the market value shall decrease by 129.387. From the table above the coefficient of CPI, TDR, LDR and LR indicate a negative relationship with the market value in that if these variables increase then market value will decrease. The EPS coefficient is positive implying that there is a positive relationship between EPS and the market value, when EPS increase so will the market value. The T-values show that coefficients for CPI, TDR, LDR and LR are not significant as their P-value are above 0.05 but the coefficient of EPS is significant

Table 4.4: Statistical significance for the overall regression model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	157153.354	5	31430.671	84.405	.000[b]
	Residual	16384.660	44	372.379		
	Total	173538.015	49			

a. Dependent Variable: Average Annual Share Price

b. Predictors: (Constant), Earnings Per Share, Cash Position Indicator, Liquidity Ratio, Loan to Deposit Ratio, Total Deposit Ratio

The F-ratio in the ANOVA table 4 as shown above tests whether the overall regression model is a good fit for the data. The table 4 above shows that the Independent variable statistically significantly predicts the dependent variable. From above P- value <0.05 that is 0.000 (p) thus the regression model is a good fit of the data.

4.4 Interpretation of Results

The present study used descriptive statistic method to determine the effect of liquidity on the market value of commercial banks listed at the Nairobi Securities Exchange. The mean market value for cash position indicator, total deposit ratio, loan deposit ratio, liquidity ratio and earnings per share were analyzed. In table 4.1 the analysis showed that the highest market value was recorded on earnings per share followed by mean market value of loan to deposit ratio, then total deposit ratio then liquidity ratio while the lowest mean market value was recorded on the cash position indicator. This clearly shows that there exists a strong positive relationship between earnings per share and market value for commercial banks listed at the Nairobi Securities Exchange.

From table 4.2 above the results of the study showed that there is a very good level of prediction with “R” of 0.952. The table 4.2 also shows that R square is 90.6% implying that 90.6% of variance of dependent variable can be explained by the independent variable.

From table 4.3 the study also revealed that earnings per share coefficient being positive has a positive relationship with market value and a unit increase will lead to a unit increase in the market value. While cash position indicator, total deposit ratio, loan to deposit ratio and liquidity ratio with negative coefficients have a negative relationship with the market value, implying that a unit increase will lead to a unit decrease of the market value. Earnings per share from the table 4.3 has a P-value of less than 0.05 implying to be statistically significant while cash position indicator, total deposit ratio, loan to deposit ratio and liquidity ratio with P-value more than 0.05 are statistically insignificant.

This study also revealed that a very strong relationship exists between liquidity and market value of commercial banks listed at the Nairobi Securities Exchange, this has been shown by a very high multiple correlation coefficient of 0.906 from the table 4.2 and that the regression model is a good fit of data with a P-value of 0.000 from table 4.4

CHAPTER FIVE: SUMMARY, CONCLUSION ANDRECOMMENDATIONS

5.1 Introduction

This chapter entailed the summary of the entire study, conclusion, recommendation, suggestion for further studies and limitation.

5.2Summary of Findings

The summary of findings covered how the independent variables: cash position indicator, total deposit ratio, loan to deposit ratio, liquidity ratio and earnings per share affect the dependent variable, the market value on the commercial banks listed at the NSE.

5.2.1Effect of Cash Position Indicator on the Market Value

From the results of the study the cash position indicator (CPI) had a negative relationship with the market value of the commercial banks listed at the Nairobi Securities Exchange. The coefficient for cash position indicator as indicated in table 4.3 is -129.387 which impliesthat a unit increase of cash position indicator will lead to a unit decrease of the market value of commercial banks by a factor of -129.387. The P-value is 0.073 which is above 0.05 thus this variable, is statistically insignificant.

5.2.2Effect of Total Deposit Ratio on the Market Value

Total deposit ratio has a coefficient of -52.388 as indicated in the regression analysis table 4.3. This implies that the relationship between this variable and market value is negative and a unit increase in total deposit ration leads to a unit decrease in market

value by a factor of 52.388. Table 4:3 of the coefficients further shows the statistical insignificant of this variable,total deposit ratio its P-value of 0.20 is above 0.05. The mean market value for total deposit ratio from table 4.1 of descriptive statistics is 0.725 which is also low compared to earnings per share and loan to deposit ratio.

5.2.3Effect of Loan Deposit Ratio on the Market Value

The loan deposit ratio, as shown in the coefficient table 4:3, has a coefficient of -0.042 revealing that it has a negative relationship with the market value. A unit increase in loan deposit ratio leads to a unit decrease in the market value by a factor of 0.042. Further, the P-value of loan deposit ratio is 0.90 which is above 0.05 thus indicating that this variable is statistically insignificant. The mean market value from the descriptive statistic table 4.1 was 2.46 which is the second best after earnings per share.

5.2.4Effect of Liquidity Ratio on the Market Value

From the findings of the regression equation in table 4.3 the coefficient for liquidity ratio was -54.526 implying that a unit increase in liquidity ratio leads to a unit decrease in the market value by a factor of 54.526. This also concludes that there exists a negative relationship between liquidity ratio and market value of commercial banks listed at the Nairobi Securities Exchange. From table 4.3 the results also showed that the P-value is 0.083 of liquidity ratio which is above the 0.05 thus statistically insignificant.

5.2.5Effect of Earnings per Share on the Market Value

The earnings per share coefficient of 8.175 as shown in the regression analysis table 4.3 shows the existence of a positive relationship with the market value. A unit increase in earnings per share leads to a unit increase in market value of the commercial banks listed at the Nairobi Securities Exchange. The findings from table 4.3 further shows that the earnings per share P-value of 0.000 which is less than 0.05 is statistically significant. From the descriptive statistics in table 4.1 it was revealed that earnings per share had the highest mean on market value.

5.3Conclusion

With "R" 95.2% the study results analyzed through a multiple regression indicated that there is a very strong relationship between liquidity and market value of commercial banks listed at the NSE. Further, the model P-value is less than0.05 indicating the level of statistically significance. The R square of the model was 90.6% (Adjusted R square 89.50%) indicating that 90.6% of the variation of the liquidity can be explained by the independent variable.

Earnings per share revealed to have a positive relationship on the market value of commercial banks while cash position indicator, total deposit ratio, loan to deposit ratio and liquidity ratio had a negative relationship with these commercial banks listed at the Nairobi Securities Exchange.Thus, the study established the existence of a strong linear relationship between liquidity and market value of the commercial banks listed at the Nairobi Securities Exchange and earnings per share is the component that affect the market value of these banks positively.

5.4Recommendation

Financial analyst, policy makers and stakeholders need to pay great attention to the relationship between liquidity and market value of commercial banks listed at the NSE. The level of liquidity maintained by commercial banks is not only crucial for meeting depositors demand and create more loans to generate more revenue for these banks but also the market value as reflected in their share prices. Closer attention need to be on the EPS as it has a positive relationship on the market value, and therefore the more profit is generated the higher the EPS and so shall be the market value.

The government also through CBK need to set the statutory level of liquidity ratio at a reasonable level which among others shall boost the market value of the commercial banks listed at the NSE.

5.5Suggestion for Further Study

This study covered a period of five years from 1st January, 2009 to 31st December, 2013. It is possible that a shorter period could have an impact on the findings of this study. It is important to conduct a similar study that covers a longer period example fifteen and also use a difference measure of market value to see if the same findings could be arrived at.

Other measures of bank's liquidity can be used so as to ascertain if similar findings can be obtained with a different measure of market value. This can be extended to other securities exchange in the East and Central Africa.

5.6Limitation of the Study

This study covered a period of five years from 1st January, 2009 to 31st December, 2013. The study was based on establishing the impact of liquidity on the market value

of commercial banks listed at the NSE. It was not possible to carry out the study on all the commercial banks operating in Kenya because for those not listed at the NSE it was not possible to determine the market value for this study which is the annual average share price.

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APPENDIX 1 – Listed Commercial Banks in Kenya at the NSE

1) Barclays Bank of Kenya Ltd
2) CFC Stanbic Bank Ltd
3) Co-operative Bank of Kenya Ltd
4) Diamond Trust Bank (K) Ltd
5) Equity Bank Ltd
6) Housing Finance Co. of Kenya Ltd
7) Kenya Commercial Bank Ltd
8) National Bank of Kenya Ltd
9) National Industrial Credit Bank Ltd
10) Standard Chartered Bank Kenya Ltd

APPENDIX 2 – Raw data

	Raw Data 2009							
		A	B	C	D	E	F	G
	BANK NAME	Total Annual Share Price	Trading Days	Cash & Deposits Due from Banks(KES.M)	Total Customer Deposit(KES.M)	Net Loans(KES.M)	Total Assets(KES.M)	Total Deposit(KES.M)
1	Barclays Bank Ltd	11,557	252	1,061	125,869	93,543	164,876	126,131
2	CFC Stanbic Holdings Ltd	12,601	252	21,059	61,474	70,922	127,691	82,534
3	Diamond Trust Bank Kenya Ltd	15,402	252	7,392	52,834	41,518	66,679	54,954
4	Equity Bank Ltd	11,099	252	4,895	69,843	63,326	100,812	69,843
5	Housing Finance Co Ltd	3,915	252	2,106	12,219	14,495	18,239	13,743
6	Kenya Commercial Bank Ltd	5,043	252	9,068	162,545	120,467	194,778	169,213
7	National Bank of Kenya Ltd	8,901	252	1,154	41,995	13,156	51,404	42,045
8	NIC Bank Ltd	8,516	252	4,937	39,514	32,511	47,558	39,571
9	Standard Chartered Bank Ltd	35,855	252	10,532	86,774	58,187	123,779	97,306
10	The Co-operative Bank of Kenya Ltd	2,078	252	4,642	91,519	62,274	110,678	92,529

		A/B	C/F	D/F	E/G		
	BANK NAME	Average Annual Share Price	Cash Position Indicator	Total Deposit Ratio	Loan to Deposit Ratio	Liquidity Ratio	Earnmings Per Share
1	Barclays Bank Ltd	45.86	0.006	0.763	0.742	42.10%	4.49
2	CFC Stanbic Holdings Ltd	50.00	0.165	0.481	0.859	20.00%	2.29
3	Diamond Trust Bank Kenya Ltd	61.12	0.111	0.792	0.756	33.60%	6.19
4	Equity Bank Ltd	44.04	0.049	0.693	0.907	32.00%	1.14
5	Housing Finance Co Ltd	15.54	0.115	0.670	1.055	23.90%	1.02
6	Kenya Commercial Bank Ltd	20.01	0.047	0.835	0.712	28.00%	1.84
7	National Bank of Kenya Ltd	35.32	0.022	0.817	0.313	35.00%	5.61
8	NIC Bank Ltd	33.79	0.104	0.831	0.822	34.00%	2.75
9	Standard Chartered Bank Ltd	142.28	0.085	0.701	0.598	20.00%	16.45
10	The Co-operative Bank of Kenya Ltd	8.25	0.042	0.827	0.673	34.90%	0.85

Liquidity ratio and Earnings per Share were obtained directly from the financial statements

	Raw Data 2010							
		A	B	C	D	E	F	G
	BANK NAME	Total Annual Share Price	Trading Days	Cash & Deposits Due from Banks(KES.M)	Total Customer Deposit(KES.M)	Net Loans(KES.M)	Total Assets(KES.M)	Total Deposit(KES.M)
1	Barclays Bank Ltd	13,314	256	935	123,826	87,147	172,415	123,918
2	CFC Stanbic Holdings Ltd	14,576	256	14,269	71,425	75,225	140,080	85,694
3	Diamond Trust Bank Kenya Ltd	23,843	256	7,931	66,196	51,260	83,600	68,604
4	Equity Bank Ltd	5,042	256	5,201	104,431	78,299	143,018	104,931
5	Housing Finance Co Ltd	4,905	256	7,866	15,943	19,503	29,278	17,467
6	Kenya Commercial Bank Ltd	5,336	256	10,211	196,975	148,113	251,356	208,032
7	National Bank of Kenya Ltd	9,853	256	1,409	47,805	20,845	60,027	48,585
8	NIC Bank Ltd	8,851	256	6,375	48,492	40,755	59,014	49,225
9	Standard Chartered Bank Ltd	48,594	256	4,213	100,504	63,581	142,746	104,717
10	The Co-operative Bank of Kenya Ltd	8,264	256	6,671	124,012	86,618	154,340	129,360

		A/B	C/F	D/F	E/G		
	BANK NAME	Average Annual Share Price	Cash Position Indicator	Total Deposit Ratio	Loan to Deposit Ratio	Liquidity Ratio	Earnmings Per Share
1	Barclays Bank Ltd	52.01	0.005	0.718	0.703	42.10%	4.49
2	CFC Stanbic Holdings Ltd	56.94	0.102	0.510	0.878	20.00%	2.29
3	Diamond Trust Bank Kenya Ltd	93.14	0.095	0.792	0.747	33.60%	6.19
4	Equity Bank Ltd	19.70	0.036	0.730	0.746	32.00%	1.14
5	Housing Finance Co Ltd	19.16	0.269	0.545	1.117	23.90%	1.02
6	Kenya Commercial Bank Ltd	20.84	0.041	0.784	0.712	28.00%	1.84
7	National Bank of Kenya Ltd	38.49	0.023	0.796	0.429	35.00%	5.61
8	NIC Bank Ltd	34.57	0.108	0.822	0.828	34.00%	2.75
9	Standard Chartered Bank Ltd	189.82	0.030	0.704	0.607	20.00%	16.45
10	The Co-operative Bank of Kenya Ltd	32.28	0.043	0.803	0.670	34.90%	0.85

Liquidity ratio and Earnings per Share were obtained directly from the financial statements

	Raw Data 2011							
		A	B	C	D	E	F	G
	BANK NAME	Total Annual Share Price	Trading Days	Cash & Deposits Due from Banks(KES.M)	Total Customer Deposit(KES.M)	Net Loans(KES.M)	Total Assets(KES.M)	Total Deposit(KES.M)
1	Barclays Bank Ltd	8,636	271	265	124,207	99,072	167,029	124,330
2	CFC Stanbic Holdings Ltd	13,587	271	33,674	74,007	94,885	150,171	107,681
3	Diamond Trust Bank Kenya Ltd	29,043	271	12,507	85,986	71,298	107,760	88,131
4	Equity Bank Ltd	5,789	271	19,550	140,447	113,824	196,294	144,165
5	Housing Finance Co Ltd	5,439	271	4,724	18,672	25,223	31,871	20,196
6	Kenya Commercial Bank Ltd	5,348	271	25,812	259,309	198,725	330,664	273,414
7	National Bank of Kenya Ltd	8,034	271	3,388	55,191	28,068	68,664	55,446
8	NIC Bank Ltd	9,825	271	5,693	66,293	56,625	78,984	67,082
9	Standard Chartered Bank Ltd	56,444	271	7,739	122,323	98,640	164,047	130,062
10	The Co-operative Bank of Kenya Ltd	4,065	271	7,465	142,705	109,409	168,312	144,586

		A/B	C/F	D/F	E/G		
	BANK NAME	Average Annual Share Price	Cash Position Indicator	Total Deposit Ratio	Loan to Deposit Ratio	Liquidity Ratio	Earnmings Per Share
1	Barclays Bank Ltd	31.87	0.002	0.744	0.797	42.10%	4.49
2	CFC Stanbic Holdings Ltd	50.13	0.224	0.493	0.881	20.00%	2.29
3	Diamond Trust Bank Kenya Ltd	107.17	0.116	0.798	0.809	33.60%	6.19
4	Equity Bank Ltd	21.36	0.100	0.715	0.790	32.00%	1.14
5	Housing Finance Co Ltd	20.07	0.148	0.586	1.249	23.90%	1.02
6	Kenya Commercial Bank Ltd	19.73	0.078	0.784	0.727	28.00%	1.84
7	National Bank of Kenya Ltd	29.65	0.049	0.804	0.506	35.00%	5.61
8	NIC Bank Ltd	36.26	0.072	0.839	0.844	34.00%	2.75
9	Standard Chartered Bank Ltd	208.28	0.047	0.746	0.758	20.00%	16.45
10	The Co-operative Bank of Kenya Ltd	15.00	0.044	0.848	0.757	34.90%	0.85

Liquidity ratio and Earnings per Share were obtained directly from the financial statements

	Raw Data 2012							
		A	B	C	D	E	F	G
	BANK NAME	Total Annual Share Price	Trading Days	Cash & Deposits Due from Banks(KES.M)	Total Customer Deposit(KES.M)	Net Loans(KES.M)	Total Assets(KES.M)	Total Deposit(KES.M)
1	Barclays Bank Ltd	3,437	251	166	137,915	104,204	184,826	1,724
2	CFC Stanbic Holdings Ltd	9,298	251	25,558	74,907	78,484	143,212	100,463
3	Diamond Trust Bank Kenya Ltd	24,308	251	7,722	106,975	87,707	135,461	109,702
4	Equity Bank Ltd	5,288	251	24,035	165,812	135,692	243,170	167,912
5	Housing Finance Co Ltd	3,727	251	6,396	22,938	30,294	40,957	23,057
6	Kenya Commercial Bank Ltd	6,065	251	10,422	288,037	211,664	368,019	297,370
7	National Bank of Kenya Ltd	4,820	251	1,357	56,728	28,347	67,155	56,884
8	NIC Bank Ltd	8,242	251	8,189	83,380	71,540	108,349	86,951
9	Standard Chartered Bank Ltd	47,970	251	3,514	140,525	115,068	195,353	144,039
10	The Co-operative Bank of Kenya Ltd	3,099	251	8,886	162,084	119,088	200,886	163,149

		A/B	C/F	D/F	E/G		
	BANK NAME	Average Annual Share Price	Cash Position Indicator	Total Deposit Ratio	Loan to Deposit Ratio	Liquidity Ratio	Earnmings Per Share
1	Barclays Bank Ltd	13.70	0.001	0.746	60.443	42.10%	4.49
2	CFC Stanbic Holdings Ltd	37.04	0.178	0.523	0.781	20.00%	2.29
3	Diamond Trust Bank Kenya Ltd	96.84	0.057	0.790	0.800	33.60%	6.19
4	Equity Bank Ltd	21.07	0.099	0.682	0.808	32.00%	1.14
5	Housing Finance Co Ltd	14.85	0.156	0.560	1.314	23.90%	1.02
6	Kenya Commercial Bank Ltd	24.16	0.028	0.783	0.712	28.00%	1.84
7	National Bank of Kenya Ltd	19.20	0.020	0.845	0.498	35.00%	5.61
8	NIC Bank Ltd	32.84	0.076	0.770	0.823	34.00%	2.75
9	Standard Chartered Bank Ltd	191.12	0.018	0.719	0.799	20.00%	16.45
10	The Co-operative Bank of Kenya Ltd	12.35	0.044	0.807	0.730	34.90%	0.85

Liquidity ratio and Earnings per Share were obtained directly from the financial statements

	Raw Data 2013							
		A	B	C	D	E	F	G
	BANK NAME	Total Annual Share Price	Trading Days	Cash & Deposits Due from Banks(KES.M)	Total Customer Deposit(KES.M)	Net Loans(KES.M)	Total Assets(KES.M)	Total Deposit(KES.M)
1	Barclays Bank Ltd	4,229	245	1,386	151,122	118,362	206,737	4,738
2	CFC Stanbic Holdings Ltd	15,896	245	35,558	94,728	103,847	180,512	130,286
3	Diamond Trust Bank Kenya Ltd	38,925	245	8,785	128,788	110,945	166,520	133,506
4	Equity Bank Ltd	7,926	245	20,334	194,621	171,363	277,729	194,839
5	Housing Finance Co Ltd	6,034	245	6,879	26,507	35,218	47,389	28,031
6	Kenya Commercial Bank Ltd	10,230	245	10,402	305,659	227,722	390,852	312,310
7	National Bank of Kenya Ltd	5,249	245	1,357	55,191	28,347	67,179	55,446
8	NIC Bank Ltd	13,207	245	5,920	91,565	83,493	121,063	97,461
9	Standard Chartered Bank Ltd	71,533	245	8,591	154,720	131,771	220,391	163,311
10	The Co-operative Bank of Kenya Ltd	3,925	245	10,041	175,425	137,087	231,215	180,887

		A/B	C/F	D/F	E/G		
	BANK NAME	Average Annual Share Price	Cash Position Indicator	Total Deposit Ratio	Loan to Deposit Ratio	Liquidity Ratio	Earnmings Per Share
1	Barclays Bank Ltd	17.26	0.007	0.731	24.981	42.10%	4.49
2	CFC Stanbic Holdings Ltd	64.88	0.197	0.525	0.797	20.00%	2.29
3	Diamond Trust Bank Kenya Ltd	158.88	0.053	0.773	0.831	33.60%	6.19
4	Equity Bank Ltd	32.35	0.073	0.701	0.880	32.00%	1.14
5	Housing Finance Co Ltd	24.63	0.145	0.559	1.256	23.90%	1.02
6	Kenya Commercial Bank Ltd	41.76	0.027	0.782	0.729	28.00%	1.84
7	National Bank of Kenya Ltd	21.42	0.020	0.822	0.511	35.00%	5.61
8	NIC Bank Ltd	53.91	0.049	0.756	0.857	34.00%	2.75
9	Standard Chartered Bank Ltd	291.97	0.039	0.702	0.807	20.00%	16.45
10	The Co-operative Bank of Kenya Ltd	16.02	0.043	0.759	0.758	34.90%	0.85

Liquidity ratio and Earnings per Share were obtained directly from the financial statements

APPENDIX 3 – Descriptive Statistics Results of the Model

Table 4.1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Average Annual Share Price	50	8.250	291.970	54.779	59.511
Total Deposit Ratio	50	.480	.850	.725	.104
Cash Position Indicator	50	.000	.270	.075	.061
Loan to Deposit Ratio	50	.310	60.440	2.463	9.041
Liquidity Ratio	50	.200	.680	.358	.094
Earnings Per Share	50	.850	29.420	6.555	6.896

Table 4.2 Model Summary

R	R Square	Adjusted R Square	Std. Error of the Estimate
.952[a]	.906	.895	19.2971149

Table 4.3 Regression Analysis

MODEL	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
1 (Constant)	68.452	36.421		1.879	0.067
Cash Position Indicator	-129.387	70.492	-0.132	-1.835	0.073
Total Deposit Ratio	-52.388	40.293	-0.091	-1.3	0.2
Loan to Deposit Ratio	-0.042	0.331	-0.006	-0.127	0.9
Liquidity Ratio	-54.526	30.736	-0.086	-1.774	0.083
Earnings Per Share	8.175	0.419	0.947	19.511	0

Table 4.4 Statistical Significance for the Overall Regression Model

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	157153.354	5	31430.671	84.405	.000[b]
	Residual	16384.660	44	372.379		
	Total	173538.015	49			