EFFECT OF LIQUIDITY MANAGEMENT ON THE SECURITY MARKET PERFORMANCE OF COMPANIES LISTED AT THE NAIROBI SECURITIES EXCHANGE.

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A Research Project Submitted To The Graduate School In Partial Fulfillment For The Requirement For The Award of the Degree of Master Of Business Administration (Finance Option).

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DECLARATION AND APPROVAL

Declaration

I, the undersigned declare that this is my original work and has not been presented or submitted for an academic award in any other university or institution of learning for the award of a degree. Information from other sources has been duly acknowledged.

Signed:…….. **Date:……**

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CM16/0122/12

Approval

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

Signed:…… **Date:…….**

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DEDICATION

This research project is dedicated to the Almighty God who gave me good health, physical and mental strength to write this project in the prescribed time. I also dedicate this project to my parents Mr. and Mrs. Ngira and to all my lecturers without whom this project would not have been successfully completed. Thank you for your love, generosity and commitment.

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Special thanks go to Egerton university fraternity for the necessary skills, competencies and facilities. I also wish to acknowledge my supervisor, Mr. Oluoch J. Oluoch for his guidance, brilliant ideas and valuable support he offered throughout the period of writing this research project.

My special gratitude goes to my parents for their encouragement and sacrifice throughout all my academic endeavors, and also for teaching me how to walk, run and smile.

Thank you all and God bless you.

ABSTRACT

The research study focused on the effect of liquidity management on the security market performance at the Nairobi Securities Exchange. The specific objectives of the study include: to establish liquidity management of companies listed on the NSE, to determine the security market performance of companies listed on the NSE and to evaluate the effect of liquidity management on market performance of companies listed on the NSE. The study was carried out in Kenya and included a purposive study of fourteen (14) companies that are listed on the NSE. The study covered a period of 72 months from January 2008 through to December 2013. The study used quantitative survey method to evaluate how liquidity management affects security market performance at the NSE in Kenya. Secondary data was used and it was derived from the NSE, CBK and published financial statements of the quoted companies. The data collected was coded and analyzed with the help of MS Excel. After analyzing the data it was presented by the use of pictorial representations such as tables and line graphs. The study also used the Ordinary Least Squares (OLS) Regression model. Using quick ratio to show liquidity performance, the study revealed that all the companies that were studied had a quick ratio of above 1 showing that they have tied a lot of their money on liquid assets, this may be because of the fear of not being able to meet their short term liabilities as they fall due and also because of the fear of imminent collapse. From the study findings of the high liquid portfolio excess return and the Low liquid portfolio excess return it was revealed that there is a significant difference between the market performance of high liquid portfolio companies and that of the low liquid portfolio companies. This could possibly be because the high liquid portfolio companies are very risky (CV= 203.53) while the low liquid portfolio companies are less risky (CV =-0.8997) as indicated by the coefficient of variation. Lastly the study revealed that liquidity management has an effect on the market return/ performance (t calculated = 1.32488) albeit for the low liquid companies (t calculated = 3.86621). Because of the failure to influence market performance of high liquid companies it was observed that the effect of liquidity management on the security market performance at the NSE increases with the level of low liquidity. It is recommended that the results of this study should be interpreted diligently possibly because the study focused on using statistical tests to examine returns and results are used to make conclusions and also because the study looked at only 72 months which is not a very long period.

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91 day TB	91 day Treasury Bill
BAT	British American Tobacco
BOC	British Oxygen Company
CAPM	Capital Asset Pricing Model
CBK	Central Bank of Kenya
CCE	Cash Conversion Efficiency
CR	Current Ratio
CV	Coefficient of Variation
DIO	Days Inventory Outstanding
DPO	Days Payable Outstanding
DSO	Days Sales Outstanding
DWC	Days of Working Capital
E.A	East Africa
EABL	East African Breweries Limited
EMH	Efficient Market Hypothesis
GDP	Gross Domestic Product
IA	Total assets
IRA	Insurance Regulatory Authority
IS	Sales
KNBS	Kenya National Bureau of Statistic
NSE 20	Nairobi Securities Exchange 20 share index
NSE	Nairobi Securities Exchange
OLS	Ordinary Least Squares
P/E	Price Earnings Ratio
QR	Quick Ratio
TPS	Tourism Promotion Service

CHAPTER ONE
INTRODUCTION

1.1 Background of the Study

Liquidity is perceived to be the degree to which a security or an asset can be sold or bought in the market without affecting the asset price. Liquidity can also be referred to as the capability of a going concern to meet its short term obligations as and when they fall due. Liquidity can be used to describe how quickly, easily and costly it is to convert that asset into cash (Berger & Bouwman, 2008). Liquidity plays a crucial role in the successful functioning of a business firm. In this paper working capital and liquidity are used to mean one and the same thing and relates to the management of current assets and currents liabilities of a company. This synonymy is based on the observation that working capital ratios are the most common measures of liquidity (Lamberg, & Valming, 2009). Effective working capital management consists of applying the methods which remove the risk and lack of ability in paying short term commitments in one side and prevent over investment in these assets in the other side by planning and controlling current assets and liabilities (Lazaridis & Tryfonidis, 2006).

Liquidity can be measured by various ratios such as current ratio, quick ratio and cash ratio. Current ratio determines a company's ability to pay short term debts as they fall due (Van Ness, 2009). It is also used to indicate the liquidity policy of the businesses, where a high current ratio indicate a company with a liberal liquidity policy while a low ratio indicate a stringent liquidity policy. The ratio is computed as current assets divided by current liabilities. Quick ratio is another measure of liquidity which is computed as current assets minus inventories divided by current liabilities. The quick ratio is a sterner test of liquidity also referred to as the 'acid test'. A quick ratio of no less than one would be required to point out the ability to meet short term obligations as they fall due. The quick ratio is considered as a more satisfactory or more reliable indicator of a company's financial strength and its ability to meet short term obligation.

Lastly, the cash ratio is considered to be the most conservative ratio under the liquidity ratios. It is calculated as cash divided by current liabilities. The cash ratio measures the instantaneous amount of cash available to satisfy short term debt. This ratio looks only at assets that can be

most easily used to pay off short-term debt and it disregards receivables and short term investments. The argument for using the cash ratio is that receivables and short term investments often cannot be liquidated in a timely manner (Penman, 2007).

In order for a business entity to function successfully, liquidity management must play a significant role. A business firm or entity should ensure that it does not suffer from excess or lack of liquidity to meet it short term obligations as and when they fall due. A study of liquidity is of major importance to both the internal and external analysts because of its close relationship with the day to day operations of the business (Bhunia, 2010). The major importance of liquidity management as it affects the security market performance in today's business world cannot be over emphasized. With the present financial situation and the status of the world's economy liquidity management is a notion that is receiving serious attention all over the world.

The vital factor in any business operation is its liquidity. For any business to survive, the organization or firm should have the required degree of liquidity, which should neither be excessive or inadequate. When the liquidity is excessive it means that there is accumulation of ideal funds and this may lead to lower market performance of securities and profitability whereas inadequate liquidity may result in interruptions of the business operations. For the efficient operation of the business a proper balance between these two extremes should be attained.

One of the integrated parts of financial management is the efficient management of liquidity. The magnitude of sales normally determines the degree to which liquidity can be gained. The amount of liquidity required by a firm depends on various factors such as the nature of business or industry, operating efficiency, size of business or scale of operations, business cycle, manufacturing cycle, operating cycle and rapidity of turnover, profit margin, profit appropriation and depreciation policy, growth prospects, taxation policy, dividend policy and government regulations. It is of utmost significance to maintain a constant eye on the liquidity position of an organization since without it, it cannot survive.

Liquidity management refers to the planning and control, necessary to ensure that the organization maintains enough liquid assets either as an obligation to the customers of the

organization or so as to meet some obligations incidental to survival of the business. Efficient working capital management involves planning and controlling current assets and current liabilities in a manner that eliminates the risk of inability to meet due short term obligations on one hand and avoids excessive investment in these assets on the other hand (Eljelly, 2004).

A financial market is a market either physical or virtual in which individuals and organizations can trade financial securities and commodities at a fair price that reflects both supply and demand. The financial securities include bonds and stocks whereas the commodities traded in the financial markets include agricultural goods and precious metals. The financial markets work by placing interested buyers and sellers in one place hence making it easier for them to access each other.

Within the financial sector, the term "financial markets" is often used to refer to the markets that are used to raise finance that is the capital markets for long term finance and the money market for short term finance (Robert and Vincenzo, 2012). The major functions of a financial market include transferring of resources, enhancing the economy, capital formation, promoting investments and savings, facilitating credit creation and providing liquidity to commercial banks.

In order to avoid liquidity crisis, management of businesses and financial institutions in particular needs to have a well-defined policy and established procedures for measuring, monitoring, and managing liquidity. Managing liquidity is therefore a core daily process requiring managers to monitor and project cash flows to ensure that adequate liquidity is maintained at all times (Berger & Bouwman, 2008). The study therefore sought to evaluate the effect of liquidity management on the security market performance at the NSE over a 6 years period that is January 2008 to December 2013.

1.2 Statement of the Problem

Business success depends heavily on the ability of financial managers to effectively manage the components of working capital (Filbeck& Krueger, 2005). Where they exist, studies conducted in Kenya to explore the effect of working capital management on performance they have not addressed the effect of liquidity management on the security market performance. Nyamao et *al.*

(2012) for instance considered working capital management in terms of efficiency of cash, inventory and receivables management and found out that there is a negative relationship between the time when the cash is collected from the customers and the firm's productivity and there is a positive relationship between the inventories when they were brought in and the period to which they are sold and the firm's profitability. Further, Mathuva (2009) focused on the impact of working capital management on the performance and focused on the implication of working capital management on Liquidity risk. Although both are relevant, they ignored the effect of liquidity management on the security market performance at the Nairobi Securities Exchange. Accordingly, whereas liquidity management is one of the key pillars in financial management, it is not clear how it affects the security market performance at the NSE. This is particularly glaring literature gap given that companies quoted at the NSE form a key component of the country's GDP hence enhanced economic activity (KNBS, 2013). It is against this background that this study was done.

1.3 The Main Objectives of the Study

The main objective of the study was to evaluate how liquidity management affects the security market performance at the Nairobi Securities Exchange.

1.4 Specific Objectives of the study

The study was guided by the following specific objectives:

i. To establish liquidity management of companies listed on the Nairobi Securities Exchange.
ii. To determine the security market performance of companies listed on the Nairobi Securities Exchange.
iii. To evaluate the effect of liquidity management on security market performance on the Nairobi Securities Exchange.

1.4 Hypotheses Testing

The following hypotheses were tested:-

H_{O1}: There is no significant difference in the liquidity management of companies listed on the Nairobi Securities Exchange.

H_{O2}: There is no significant difference in the security market performance of low liquid companies and high liquid companies.

H_{O3}: Liquidity management does not influence the security market performance of companies listed at the Nairobi Securities Exchange.

1.6 Justification of the Study

The study sought to show the present status of liquidity management in Kenya and how it affects the security market performance at the Nairobi Securities Exchange. There is a research gap where little is known about the effect of liquidity management on the security market performance at the NSE. The study therefore sought to establish liquidity management of companies listed on the NSE, to determine the security market performance of companies listed on the NSE and to evaluate the effect of liquidity management on security market performance on the Nairobi Securities Exchange.

Moreover, this study will contribute to the body of knowledge on an understanding of how liquidity management will affect the security market performance of public companies in Kenya. This study can also be used in future as a reference article to private companies that want to be listed at the NSE.

1.7 Importance of the Study

The main aim of the study was to help fill significant gaps in knowledge about liquidity management and its effect on security market performance landscape in Kenya. In addition to this, the study findings will be of great use to:-

The scholars who will be able to understand what liquidity management is and its effect on the security market performance at the NSE.

The government since it will provide the necessary information to the government to help them in policy formulation and also enable them to be efficient regulators.

Researchers will also be able to add to their research work about liquidity management and gain a better understanding on this field. The findings can also be used in future as reference material.

1.8 Scope of the Study

The study was carried out in Kenya and included a purposive study of 14 companies listed at the Nairobi Securities Exchange. The study covered a period of 72 months from January 2008 through to December 2013. This was considered a long enough periods over which NSE has experienced significant liquidity and trading volumes, a condition that was conducive for evaluation of market based returns given the established market efficiency levels and to capture the trend variations in liquidity premium if any.

1.9 Limitations of the Study

Small size of the market was the first limitation, the Kenyan market is significantly small with less than a hundred companies listed in it, and keeping in mind that there are over a thousand companies in Kenya therefore it's difficult to make a comprehensive conclusion that is reflective of the entire market. Therefore the researcher used all the listed companies so as to be able to make a comprehensive conclusion. Secondly, the study period of this research is 6 years that is from 2008 to 2013 which is a very short time for one to be able to make an incomparable conclusion on the effect of liquidity management on the security market performance at the NSE. Therefore there is need for further study.

Thirdly, there is a low efficiency levels at the NSE, since the stock prices at the NSE are only indicative of past information and many or most investor's trade in stocks based on the best economic performance indicators such as good trading results of the prior year. To deal with this limitation the researcher did a study of the past six years in order to make a comprehensive conclusion. Lastly, the finances required to effectively undertake the research study are limited as important resources in terms of finances required for transport, purchase of stationery, paying of research assistant, typing and photocopying. However the researcher went all-out to work with the limited financial resources.

1.10 Operational Definition of Terms

Low liquid

An asset or security can be said to be low liquid when it cannot be sold or exchanged for cash without substantial loss of value. Low liquid assets or security cannot be sold speedily because of lack of ready and willing investors to buy the asset or security.

Liquidity

Liquidity is the ability of an organization or firm to convert its assets into cash quickly and also to meet its short term obligations as and when they fall due. Liquidity can also be said to be the degree to which a security or asset can be brought or sold in the market without affecting the assets price

Market capitalization

Also referred to as market cap and it is the sum value of issued shares of a publicly quoted company, its value is calculated as the share price multiplied by the number of shares outstanding.

Market efficiency

Market efficiency is the degree to which stock prices reflect all available and relevant information. It requires that errors in the stock price in the market be impartial.

Market performance

Market performance can be defined as the behavior of a security or asset in the market place.

Market risk premium

It can be defined as the difference between the expected return on the market portfolio and the risk free rate.

Nairobi Securities Exchange

FPRI, (2011) defines that Nairobi securities exchange as a market place, a physical location where stocks and bonds are bought and sold. The Role of the Nairobi Securities Exchange (NSE)

are Market Performance Overview, Automation of the NSE Trading System, Participation in the Capital Markets a case for investing in securities, a case for financing through the capital markets Policy and Tax Incentives for Companies Listed on the NSE Eligibility Criteria for Listing on the NSE.

Securities market

A securities market is an economic institution within which the sale and purchase of securities between subjects of the economy on the basis of demand and supply. The securities market can also be defined as a system that interconnects all participants that provide effective conditions to the buying and selling of securities.

Quick ratio

The quick ratio is a liquidity ratio which is considered a sterner test of liquidity also referred to as the 'acid test'. A quick ratio of no less than one would be required to point out an ability to meet short term obligations as they fall due. The quick ratio is considered a satisfactory or more reliable indicator of a company's financial strength and its ability to meet short term obligation.

Quoted companies

FPRI, (2011) defines quoted companies as companies whose shares can be bought and sold in the securities exchange market.

CHAPTER TWO
LITERATURE REVIEW

2.1 Introduction

In this chapter the literature that developed a framework for this study was examined. The chapter is organized under the following subheadings: Liquidity management, security market performance, important theoretical framework and the empirical framework. Lastly, this chapter gives a summary and highlights the gaps, issues raised and issues reviewed as well as the conceptual framework of the study.

2.2 Liquidity Management

Several studies have been conducted on the effect of liquidity management on security market performance and various conclusions reached. Some of this studied only an aspect or two of the liquidity management components while others studied only the cash conversion cycle. They, however, reported that liquidity management may have an effect on a company's market performance (Amarjit, Nahum and Neil, 2010). Hence, the management of liquidity may have both negative and positive impact on the company's market performance. Though, few of those works are explored in this particular study.

Liquidity is a financial expression, which means the amount of assets available for paying off maturing and overdue obligations. It is the state of a company which determines its capability to honor its maturing obligations that are made up of current liabilities and long term debt (Erich, 1989). Liquidity can also be referred to as a measure of the relative amount of assets in cash that can be quickly converted into cash without loss in value available to meet short-term liabilities (Penman, 2007). Liquidity helps a company to avoid a situation where it will be forced to liquidate.

Liquidity management refers to the planning and control, necessary to ensure that the organization maintains enough liquid assets either as an obligation to the customers of the organization or so as to meet some obligations incidental to survival of the business. Therefore liquidity management is essential for all businesses whether small, medium or large and it refers

to the management of current assets and liabilities, it also plays an important part in the successful management of a firm and secures the future growth of the firm or company. With the present financial situation and the unstable state of the world's economy, financial management is a notion that is getting serious attention all over the world (Priya and Nimalathasan, 2013). Managers and the business owners in the whole world today are majorly concerned by devising strategies of managing their day to day operations so as to meet their obligations as and when they fall due and also to increase the profitability of the firm and shareholders wealth.

Liquidity management is among the four cardinal decision areas of financial management, for which every commercially oriented organization has to make (Pandey, 2005). Working capital components of a firm deals with its liquidity and hence fundamental for the effective and efficient operations as well as the sustainability of its going concern status (Enyi, 2006).

Working capital and liquidity could mean one and the same thing and relate to the management of current assets and current liabilities of an enterprise. This synonymy is based on the observation that working capital ratios are the most common measures of liquidity (Lamberg and Valming, 2009). Liquidity management determines to a large extent the quantity of profit that results as well as the value of shareholders' wealth (Ben-Caleb, 2008). For a firm to survive, it must remain liquid as failure to meet its obligations in due time, results in bad credit rating by the short-term creditors, reduction in the value of goodwill in the market and ultimately lead to liquidation (Bhavet, 2011).

Priya and Nimalathasan (2013) asserts that liquidity management is very important for every organization that means to pay current obligations on business, the payment obligations include operating and financial expenses that are short term but maturing long term debt. Liquidity ratios are used for liquidity management in every organization. The liquidity ratios include quick ratio that calculated by current assets minus inventories divided by current liabilities. A high current ratio indicates a company with a moderate liquidity policy.

According to Hrishikes and Bhattacharya, (2005) the problem of liquidity management is more acute for companies which are growing at a fast rate. The rising cash flow curves gives a

euphoric feeling of "all being well everywhere', which makes the managers to press the growth button faster. What they lose sight of is the real cash position of the company which might be showing a downward trend and hence, pushing the company the slowly and then vigorously towards a severe liquidity crisis despite the company making high profit. Unfortunately, once an enterprise-manager presses the growth buttons, it is difficult for them to retract the steps. The continuous erosion of liquidity ultimately makes a high-growth company sick. There is nothing wrong in making profit, in fact, that is the purpose of business, but unless there is cash coming through profit, an enterprise will soon be dead.

2.3 Security Market Performance

The share performance of companies listed in the security market is reflected by capital gains. This is the difference of the share prices at the beginning and end of specified time intervals. This is in actual the security market return of the listed shares. Using the market model return is indicated as:

$$\text{Return} = \frac{P_t - P_{t-1}}{P_{t-1}} \times 100$$

Where

P_t – Share price at the end of month t

P_{t-1} – Share price at the beginning of month t

For the overall market performance, market indices are used to reflect performance. The two critical indices at the NSE in this respect are NSE 20 share index and NASI. The market mechanism is measured by the NSE 20 share index where a high share index represents high security prices which in turn translate to good performance while a low share index represents low security prices which mean low performance (NSE, 2014). The market return is calculated as:

$$\text{Market Return} = \frac{\text{NSE } 20_t - \text{NSE } 20_{t-1}}{\text{NSE } 20_{t-1}}$$

Where

NSE 20_t – NSE 20 share index at the end of month t

$NSE\ 20_{t-1}$ - NSE 20 share index at the beginning of month t

In Kenya there is only one organized stock exchange which is the Nairobi securities exchange. A stock market can be defined as an organized market where shares and stocks are issued, sold and bought through dealers or stock brokers. Some functions of the NSE include facilitating equity financing, encouraging growth of financial services and enables the mobilization of savings for investment (NSE, 2014).

2.4 Theoretical Framework

2.4.1 Efficient Market Hypothesis

The theory of efficient market hypothesis was developed by Eugene Fama in 1970. It states that it is impossible to beat the market because security market efficiency causes existing share prices to always include and reflect all relevant information. The efficient market hypothesis also causes the security prices to adjust rapidly to the arrival of new information therefore the current prices of the securities reflect all information about securities. Fama (1970) defines an efficient market as a market where there are large numbers of rational, profit maximizes actively competing, with each other trying to predict future market values of individual securities, and where important current information is almost freely available to all participants.

Fama (1970) posits that there are three forms of market efficiency – the weak form, the semi strong and the strong form. The first form is the weak form efficient market is one in which the information is reflected in past prices and volume figures, hence cannot be used to beat the market (Jordan, Miller & Dolvin, 2012). This kind of efficiency is concerned with both the speed and accuracy of the market's reaction to information as it becomes available (Mabhunu, 2004). A research study conducted by Aga and Kocaman (2008) concluded that the Istanbul Stock Exchange exhibits the weak form of efficiency and results obtained from time series shows the returns can only be described by mean. Therefore this hypothesis contends that you should gain little from using any trading rule that decides either to buy or sell any security based on past rate of return. Tests of the weak form EMH study how investors can use past information to be able to find out the right time to buy or sell and time and again earn abnormal profits.

The second form of EMH is the semi strong form EMH, it assumes that security prices adjust rapidly to the release of all public information that is current security prices fully reflect all public information (Jordan et al. 2012). It encompasses the weak for hypothesis because all the market information considered by the weak form hypothesis such as the rates of return, stock prices and trading volumes is public. At this level fundamental analysis will not enable investors to earn consistently higher than average returns. When testing the semi strong market efficiency, it is vital to observe the market reaction to new information that has just been made public. Results of a study by Ahmed, Hussin and Ying (2010) to test the semi-strong form of efficiency on the Malaysian Stock Exchange provide some evidence of this form. Stock prices adjust in an efficient manner to dividends and earnings announcements.

Fama et. al (1969) compared stock returns before and after a stock split and reported block trading and abnormally high returns before the announcement and no extraordinary return after the announcement. The market had correctly valued the securities and there was consensus since no single investor was a price taker. Bos, (1994) observed that in the U.S. market, in the three days around the announcement of mergers and acquisitions, the average return on the stock of a target company realized within a day is 15% and that the increase in stock prices is permanent.

Lastly is the strong form EMH, it states that the share price reflects all the available public and private information that is past, present and future, this means that no group of investors have monopolistic access to information relevant to the formation of prices (Jordan et al., 2012). Therefore no group of investors should be able to consistently derive above average risk adjusted rate of return. It encompasses both the weak and semi strong EMH. Seyhun (1986) offers adequate evidence that insiders profit from trading on public information not known by the market and therefore are not incorporated into the share prices. Testing this level or form of efficiency is done by observing whether the level of security returns earned by the insiders versus that earned by outsiders is significantly different. A researcher can also observe high trading and abnormal returns before the company's public announcement. For example, if investors learn earlier of a firm's intention to report bad earnings late, they will l react by disposing of their shares before the actual announcement, driving down prices (Kross, 1982).

This would be evidence that the market also has insider information and signify market efficiency in the strong form.

Warren Buffett (1984) has also argued against EMH, saying that the preponderance of value investors among the world's best money managers rebuts the claim of EMH proponents that luck is the reason some investors appear more successful than others (Hoffman, 2010). As Malkiel (1996) has shown, over the 30 years more than two-thirds of professional portfolio managers have been outperformed by the S&P 500 Index and, more to the point, there is little correlation between those who outperform in one year and those who outperform in the next.

Chan et al, (2003) states that empirical evidence has been mixed, but has generally not supported strong forms of the efficient-market hypothesis. According to Dreman and Berry (1995), low P/E stocks have greater returns. In an earlier paper Dreman also refuted the assertion by Ray Ball that these higher returns could be attributed to higher beta (Ball, 1978), whose research had been accepted by efficient market theorists as explaining the anomaly in neat accordance with modern portfolio theory. The assumption that investors are rational and therefore value investments rationally that is, "by calculating the net present values of future cash flows, appropriately discounted for risk" is not supported by the evidence, which shows rather that investors are affected by herd instinct, a tendency to 'churn' their portfolios, asymmetrical judgments about the causes of previous profits and losses and a tendency to under-react or over-react to news (Sheifer, 2000).

In this case if the Efficient Market Hypothesis is applied, then liquidity management information obtained from financial statements should affect prices and therefore security market performance of the listed companies. In light of this, efficient market hypothesis theory was relevant to this particular study.

2.4.2 Behavioral Finance

The theory of the impact of human behavior on investing decision making emerged as a contradictory and surrogating approach but not as a supplementary assumption. In Shefrin's (2000) terms, Behavioral Finance is the study of how psychology affects financial decision

making and financial markets, and, according to Thaler (1993) it is simply 'open-minded' finance. Endorsed by other disciplines, such as Statistics, Mathematics, Sociology, Psychology, Anthropology, Behavioral Finance attempts to describe how human psychology, and in particular, human behavior, affects investing decision making.

Sewell (2005) states that behavioral finance is the study of the influence of psychology on the behavior of financial practitioners and the subsequent effect on the markets. In this respect, some financial effects are likely to depend upon the investors less rational behavior (Barberis and Huang, 2007) which results from biases, psychological variables, and heuristics. Investors are not optimal decision makers, on account of the psychological processes affecting their financial-investing decision making (Alexakis and Xanthakis, 2008).

The forefathers of Behavioral Finance are the prominent psychologists Kahneman and Tversky(2000), who advocate that heuristics and biases affect judgment under uncertainty, and apart from framing and market anomalies, a major premise in Behavioral Finance is heuristics (Shefrin, 2000), which are perceived as patterns regarding how people behave (Ritter, 2003). Heuristics derives from the ancient Greek work *ευρίσκω* (discover) and refers to acquiring knowledge or a desirable result by employing smart guesswork rather than specified formulas. Heuristics involve simple experience-based techniques for problem solving, known as rules-of-thumb or shortcuts, which have been proposed to explain how investors make decisions, particularly during periods when, due to poor information, complex investing circumstances and market instability, it is hard to make judgments. Cognitive heuristics work by a process called attribute substitution which happens without conscious awareness (Kahneman & Frederick, 2002).

Typically, the most common cognitive heuristics, which best explain the meaning of these rules and provide evidence of the investors' irrational behavior is: representativeness, anchoring, herding and overconfidence, apart from this heuristics, investors' decisions are also affected by a number of illusions. Among the most common fallacies affecting investors' behavior are: Loss aversion, mental accounting and Regret aversion. In addition to loss aversion, mental accounting and regret aversion, it is also worth accentuating that, within the framework of Behavioral

Finance, judgment and investing options are greatly affected by people's cognitive biases, the generation and development of which depend on personality, culture and the socio-economic environment. These biases are argued to lead people to logical fallacy. In this respect, the rationality of the traditional mainstream approach is challenged, and irrational investing processes are likely to lead to dangerous paths; investing opportunities are open only to a part of the so called 'smart money' (Shiller, 2000).

In the context of Behavioral Finance, irrationality and the failure to encounter it by employing arbitrage is corroborated by market anomalies, among which calendar anomalies (weekend effect, January effect), defined as time in a year period during which the investors' behavior is arbitrarily differentiated. Behavioral Finance also demonstrates a concern with investment time and suggests that stock market bubbles are not short-term; thus, the losses bubbles are likely to incur are not easily and immediately reimbursed. It also maintains that information and news are inefficient as they may often be deceptively communicated to investors, who are frequently incapable of exploiting them, since they have already been exploited by other investors that can be said to be confidential information.

In this case if the behavioral finance theory is applied, then investors' psychology such as heuristics, herding, overconfidence and biases should affect share prices and therefore security market performance of the listed companies. In light of this, behavioral finance theory was relevant to this particular study.

2.4.3 Capital Asset Pricing Model

The Sharpe (1964), Lintner (1965) and Black (1972) Capital Asset Pricing Model (CAPM) is considered one of the foundational contributions to the practice of finance. The model postulates that the equilibrium rates of return on all risky assets are a linear function of their covariance with the market portfolio. The CAPM is an ex-ante, static (one period) model. The model's main prediction is that a market portfolio of invested wealth is mean-variance efficient resulting in a linear cross-sectional relationship between mean excess returns and exposures to the market factor (Fama and French, 1992). The model draws on the portfolio theory as developed by Harry Markowitz (1959). In its simplest form the CAPM is defined by the following equation:

$E(R_i) = R_f + \beta_i [E(R_m) - R_f]$

Where

$E(R_i)$ = The expected return of stock i.

$\beta_i = COV (R_i, R_m)$

R_f = The risk free rate of return

$E(R_m)$ = The expected return of the market

The CAPM model assumes a linear relationship between the expected return in a risky asset and its β and further assumes that β is an applicable and sufficient measure of risks that captures the cross section of average returns, that is, the model assumes that assets can only earn a high average return if they have a high market β. β drives average returns because β measures how much the inclusion of additional stock to a well diversified portfolio increases the inherent risk and volatility of the portfolio.

The attraction of the CAPM is that it offers powerful and intuitively pleasing predictions about how to measure risk and the relation between expected return and risk. Unfortunately, the empirical record of the model is poor—poor enough to invalidate the way it is used in applications. The CAPM's empirical problems may reflect theoretical failings, the result of many simplifying assumptions. But they may also be caused by difficulties in implementing valid tests of the model. For example, the CAPM says that the risk of a stock should be measured relative to a comprehensive "market portfolio" that in principle can include not just traded financial assets, but also consumer durables, real estate and human capital. CAPM was also relevant to the study in that it provided a basis for the regression model to be formed.

2.5 Empirical Studies

Enyi (2006) observes that present approaches do not take the question of operational size and relative liquidity of the firm into account when dealing with working capital adequacy. The research studied financial reports of 25 selected listed firms together with opinion surveys on (existing) practical applications on working capital management in some of them. The results obtained from the data were validated using student't' distribution test. The findings revealed

that firms that considered relative liquidity perform better and have better growth prospect than others. The study recommends the use of relative liquidity for a more accurate estimation of working capital adequacy by organizations.

Ganesan (2007) made an analysis of working capital management efficiency and profitability and liquidity of firms in telecommunication equipment industry in USA, using a sample of 443 financial statements of 349 telecommunication equipment companies randomly selected, between the periods of 2001 – 2007. The variables consisted of: Days of Working Capital (DWC); Operating Income (plus depreciation) as it relates to Total Assets (IA); Operating Income (plus depreciation) related to Sales (IS); Cash Conversion Efficiency (CCE); Current Ratio (CR); Days Sales Outstanding (DSO); Days Inventory Outstanding (DIO); and Days Payable Outstanding (DPO). IS and IA are measures of profitability. Correlation and regression analyses were made for the variables of the study. The results indicate that there is an insignificant negative relationship between IA and DWC. Also, IS is negatively related to DWC, DSO, DIO and DPO. However, the association of DSO with IS and IA is not significant enough to predict IS or IA using DSO. Hence, working capital management efficiency is negatively associated with profitability and liquidity. Therefore, he concluded that the industry can improve working capital management efficiency by reducing inventory and improving DPO by getting more credit from suppliers.

Singh (2008) found that the size of inventory directly affects working capital and its management. He suggested that inventory was the major component of working capital, and needed to be carefully controlled. Singh and Pandey (2008) suggested that, for the successful working of any business organization, fixed and current assets play a vital role, and that the management of working capital is essential as it has a direct impact on profitability and liquidity. Mohammad and Noriza (2011) worked on crating the relationship between Working Capital Management (WCM) and performance of firms. For their analysis they chose the Malaysian listed companies. They administered the perspective of market valuation and profitability. They used total of 172 listed companies from the databases of Bloomberg. They randomly selected five year data (2003-2007). This research studied the impact of the dimensions of working capital component i.e. C.C.C., current ratio, current asset to total asset ratio, current liabilities to

total asset ratio, and debt to asset ratio in effect to the firm's performance whereby firm's value dimension was taken as Tobin Q and profitability that is return on asset and return on invested capital. They applied two different techniques for analyzing the data that are multiple regression and correlations. They found that there is a negative relationship between working capital variables and the firm's performance.

Mathuva (2009) studied the impact of working capital management on the performance and took almost 30 listed firms as a sample and all these companies were listed in Nairobi stock exchange and the data was taken from 1993 to 2008. There were certain findings of his research by analyzing the fixed effects regression models. Firstly, there is a negative relationship between the time when the cash is collected from the customers and the firm's productivity. This depicts, firms that are more profitable enjoys less time period for the collection of cash from the customers as compare to ones which are less profitable. Secondly, there is a positive relationship between the inventories when they were brought in and the period to which they are sold and the firm's profitability. The interpretation comes out as that the firms or the organizations which take more time to keep the inventories it reduces the costs of the disruption in the process of production and usually the business losses as there is the insufficiency in the goods. This situation decreases the operating cost of the firm. The third assumption of the research was the association between the average payment period and profitability and found out to be positive ($p<0.01$). The more the time taken to disburse the creditors, the profitability will increase.

The study found (Eljelly, 2004) significant negative relationship between the firm's profitability and liquidity levels as measured by current ratio, and that the relationship is more evident in firms with high current ratios and longer cash conversion cycles. The study also found that at industry level, however, the cash conversion cycle or cash gap is of more importance as a measure of liquidity than current ratio that affects profitability. The size variable is also found to have significant effect on profitability at industry level. Similarly in his study, Jose et al (1996) showed that day-to-day management of a firm's short term assets and liabilities plays an important role in the success of the firm. Firms with growing long term prospects and healthy bottom lines do not remain solvent without good liquidity management.

Reddy (1995) studied various issues related to working capital management among selected (six companies) private large scale companies in the state of Andhra Pradesh during the period from 1977 to 1986 . The study revealed that investment in current assets was more than that of fixed assets and inventories constituted highest percentage of total current assets. Study also pointed out that the liquidity and solvency position of sample units was found to be highly unsatisfactory. The study is based on his findings, suggested the direct need for improvement of liquidity and solvency position of sample companies failing which the situation would lead to serious liquidity crunch.

Richard (1995) felt that the investment in working capital has to be capitalized. They said that the goals of investment in working capital were threefold: to find income producing opportunities for cash that is temporarily idle, to maximize yield and to maintain the liquidity of the investment. With his experience as associate financial consultant with Merrill Lynch's Private client group in Arlington Mr. Romero felt that the firms have to have concrete formula of optimum investment in working capital.

Lairodi et al. (1999) conducted a research with the listed companies of London Stock Exchange for 4 years period revealed that, the cash conversion cycle (CCC), current ratio (CR) and the quick ratio (QR) have a negative association with the profitability ratios like the net profit ratio, return on assets ratio and the return on equity ratio. They also found a positive correlation between the liquidity ratios itself.

Chen et al (2001) have been predicted stock price crash by three variables that include trading volume, past returns and stock price skewness. The results of this paper show that the negative skewness of daily stock returns is important in a stock that experienced the two following: First, an increase in trading volume of stock compared to the past six months and experienced the positive returns in more than 36 month ago. Hong et al (2003) discussed that the heterogeneity of investors opinions a reason to expedite the stock price crash risk phenomenon. On the other hand, they noted that the lack of information asymmetry between investors. Jin Myers (2006) investigated relationship between lacks of informational transparency and stock price crash in the

capital market of different countries. They found that the lack of transparency in the markets in which financial information is high, the stock price crash is more.

In spite of the peddled impact liquidity management has on a company's market performance, not much empirical evidence is available in support of the claims of liquidity management on the security market performance of public companies in Kenya. Given this rarity of empirical studies, it is hoped that this study filled up the gaps and provided valuable support for understanding the effects of liquidity management on the market performance of companies listed at the NSE in Kenya.

2.6 Conceptual Framework

The conceptual framework is presented in a graphic version as shown in figure 2.1. It identified the variables that when put together they explain the effect of liquidity management on the security market performance at the NSE. The conceptual framework is hence the set of broad idea used to explain the relationship between the independent variables that is the factors and the dependent variables which are the outcomes.

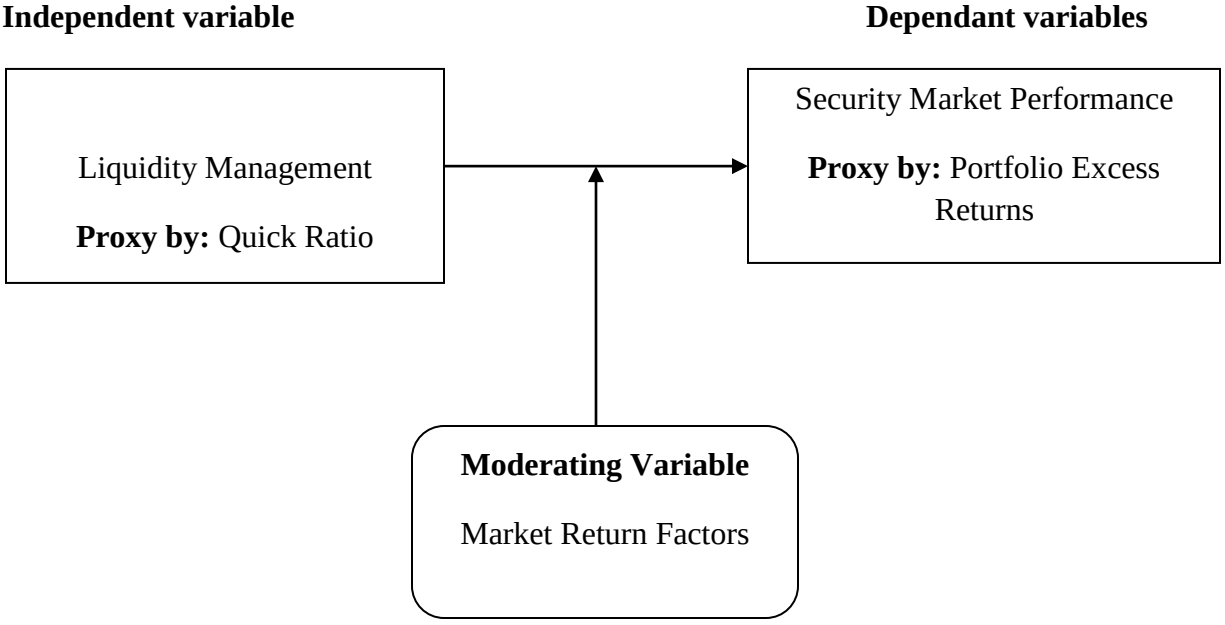


Fig 2.1 Conceptual Framework

Liquidity management means the effective management of working capital or liquidity which is significant to the survival of any business entity. Good management of both the current assets and current liabilities can enhance liquidity management, hence ensuring that there is enough or adequate liquidity to finance the daily operations of the firm. Adequate liquidity management ensures that a company is able to meet its financial obligations as and when they fall due and that there is sufficient capital for investments to promote company growth.

The independent variable in this study was liquidity management which is the planning and control, necessary to ensure that the organization maintains enough liquid assets either as an obligation to the customers of the organization so as to meet some obligations incidental to survival of the business. Liquidity management is substituted by liquidity ratio that indicate the liquidity position of the company and also the ability of these companies to meet their obligations as and when they fall due. The ratio that was used in this study was the quick ratio that is given as current assets minus inventory divided by current liabilities.

According to the conceptual framework the dependant variable is the security market performance which was substituted by portfolio excess returns that showed the overall performance of the companies that were calculated from the companies monthly share prices that were obtainable from the NSE. The moderating variable in the study was the market return which traced the performance of the market on the overall, the NSE-20 share index monthly data was used to determine the market returns of companies quoted at the NSE.

2.7 Research Gap

Liquidity management is one of the key pillars of financial management and public companies form the entire equity securities market at the NSE. A number of studies have been done relating to working capital management and its effect on performance of companies listed at the NSE for instance Nyamao et al (2012), Mantuva (2009) and Kimani (2012) but none of them exploited the effect of liquidity management on the security market performance at the NSE. Therefore there exists a research gap where little is known about how liquidity management affects the security market performance at the NSE in Kenya. This study therefore sought to fill those gaps.

CHAPTER THREE
RESEARCH METHODOLOGY

3.1 Introduction

This chapter mainly focused on the methodology and approaches that were used in data collection. It consists of research designs, population, sampling technique, data collection technique and data analysis technique.

3.2 Research Design

A research design can be regarded as an arrangement of conditions of collection and analysis of data in a manner that aims to combine relevance with research purpose (Kombo and Tromp, 2006). The research employed the quantitative survey method which was used to determine and report the way things are in order to facilitate generalization. This was aimed at finding out the effect of liquidity management on the security market performance at the Nairobi Securities Exchange in Kenya.

3.3 Target Population

Target population is defined as all the members of a real or hypothetical set of people, events or objects to which a researcher wishes to generalize the results of the research study (Kothari, 2004). The population of study consisted of all the sixty three (63) companies that are quoted in the Nairobi Securities Exchange (NSE). This is so because they are public companies under the legal and market regulatory information to disclose relevant information in their reports for presentation to shareholders at their annual general meetings. In addition, stock market prices are available from the trading activities at the NSE. The data was necessary for meeting the hypothesis testing criteria for the study. The companies included in the study are shown in Appendix V. A list of these quoted companies was obtained from the NSE

3.4 Sample and Sampling Technique

A purposive study was conducted on the entire population of the NSE in Kenya where the researcher selected fourteen (14) companies that met the criteria of the study and analyzed them. Purposive sampling is a type of random sample that is selected based on the opinion of an expert

(Kothari, 2004). The inclusion criteria was as follows: a company must not have an industry regulated policy therefore banks and other financial institutions were excluded from the study to avoid biased results since they are regulated by the CBK and IRA, a company must have had continuous trading throughout the research period for that reason dormant companies were excluded and lastly companies that are listed or delisted during the study were also excluded from the study. This was necessary for meeting the hypotheses testing criteria for this study. The companies included in the study are shown in Appendix IV. A list of these quoted companies was obtained from the NSE.

3.5 Data and Data Collection Techniques

The study used secondary data derived from the Nairobi Securities Exchange and the Central Bank of Kenya as follows: Company monthly share prices from the NSE to help compute company monthly returns which in turn are used to compute liquidity portfolio returns, 91-day monthly TB rates obtainable from the CBK. This is necessary for establishing returns on the risk free financial assets in the market, which in this case are proxy by the Government treasury bills, NSE-20 share index monthly data for determination of the market returns of companies quoted at the NSE. The index traces the performance of the market on the overall and is therefore useful for approximating market monthly returns. The study also used published financial statements of the respective companies for the period of January 2008 to December 2013. This was the main source of actual data that was analyzed to enable the researcher to make conclusions on the research study.

3.6 Data Analysis Methods

The data collected was coded and analyzed with the help of a computer. MS Excel was used specifically for the purpose of analyzing the data that was obtained. Data was first analyzed according to descriptive statistics which includes percentages, frequencies and measures of central tendency. After the data was analyzed it was presented by the use of tables and graphs.

The study used the Ordinary Least Squares (OLS) Regression model of the portfolio excess returns on the overall NSE market excess returns (for both the low liquid portfolio and the high

liquid portfolios) to evaluate the statistical significance of the return premium coefficient associated with the two distinct liquidity portfolios.

The model, modified from the capital asset pricing model is specified as follows:

$$R_{p,s} - R_f = \beta_0 + \beta_1(R_m - R_f) + 换 \text{ ---------- (i)}$$

Where:

$R_{p,s}$ - represents the monthly market returns of the two liquidity portfolios of the commercial companies quoted at the NSE

R_f - is the risk free rate of return derived from the 91-day treasury bill rate

β_0 - α is a market return constant that helps determine the excess coefficients for the portfolios and their statistical significance and the 95% confidence interval established for this study.

β_1 - is the rate of change in the market excess returns over the study period

R_m - is the overall monthly market return derived from the monthly NSE-20 share Index

e - is the error term representing the other portfolio excess return factors not captured in the linear regression model in equation (i).

Dependent variable = Portfolio excess returns over risk free rate = Return of Portfolio – Risk free return

Independent Variable = Market excess returns over risk free rate = Market returns – Risk free return

To be able to use the OLS model established in equation (i), several steps were required to generate the requisite model data. These are described below:

In the first instance to operationalise liquidity management the quick ratio was computed for all the companies at the beginning of each of the analysis years. High quick ratios indicate companies with a liberal liquidity policy while low quick ratios indicate the stringent liquidity policy companies. To establish poor liquidity and superior liquidity performance the companies are arranged in ascending order based on the quick ratios, and then they were subdivided into two equal parts that identified the two liquidity based portfolios. The companies in the first half

with the lowest quick ratios reflect the poorest liquidity management companies while the other half reflect the bet liquidity management companies.

The ratio was computed as:

$$Quick\ ratio = \frac{Current\ assets\ - Inventory}{Current\ liabilities} - - - - - (ii)$$

The companies were ranked on the basis of the quick ratio ranging from the highest quick ratio to the lowest quick ratio company. The essence was to split them into two categories to form the high liquid companies' portfolio and the low liquid companies' portfolio. This was done at the beginning of each of the study years. The essence of the split was to enable separate regression analysis of the excess returns of these portfolios so as to test the stated hypotheses of this study. The raking of the companies was done at the beginning of each year.

The next step involved the computation of the individual monthly stock returns as indicated in the equation (iii) below. This equation is based on the market model adopted from Gordon model (Gordon and Myron, 1959).

$$stock\ return = R_s = \frac{P_{s,t} - P_{s,t-1}}{P_{s,t-1}} = LnP_{s,t} - LnP_{s,t-1} \text{------- (iii)}$$

Where:

$P_{s,t}$ - is the price of the sample company share at the end of month t

$P_{s,t-1}$ - is the price of the sample company share at the beginning of month t

Ln - is the natural logarithm

The individual company returns were subsequently used in determining the portfolio return as the equal weighted mean of the individual stock returns as indicated in equation (iv). This applied to both the liquid and the low liquid portfolios

$$Portfolio\ return = \sum_{i=1}^{n} \{W_{s,i} R_{s,i}\} - - - - - - - (iv)$$

Where:

$\mathbf{W_{s,i}}$ - represent the equal weights of the portfolio companies for periods at various periods.

$\mathbf{R_{s,i}}$ -relate to the returns of the companies derived from equation (iii).

The market returns derived from NSE-20 share index was computed from equation (v). This is based on the model on the overall market performance (Gordon and Myron, 1959).

$$Market\ return = R_m = \frac{NSE.20_t - NSE.20_{t-1}}{NSE.2o_{t-1}} = LnNSE.20_t - LnNSE.20_{t-1} - - - (v)$$

Where:

$\mathbf{NSE.20_t}$ - NSE-20 share index at the end of month t

$\mathbf{NSE.20_{,t-1}}$ - NSE-20 share index the beginning of month t

It is after these variables were computed that they were used in the OLS model identified in equation (i). The research also involved the use of descriptive statistics on the annual quick ratios as well as the monthly portfolio returns over the 72 month period for each of the two portfolios to evaluate the portfolio and the overall market excess returns. The liquidity performance was analyzed using statistical measures of dispersion and central tendency that is the mean of the excess returns and quick ratios for either portfolio, the standard deviation of the excess returns and quick ratio for either portfolio and the market, the range of the excess returns and the quick ratio for each of the portfolios and the market and the median of the excess returns and the quick ratio for the portfolios. To Test the Statistical Significance of liquidity portfolio return premiums it involved the evaluation of β_1 using the t- statistic at 95% confidence interval.

CHAPTER FOUR

DATA ANALYSIS, PRESENTATION AND DISCUSSION

4.1 Introduction

The main purpose of this study was to analyze the effects of liquidity management on the security market performance at the Nairobi securities exchange. This Chapter was therefore aimed at analyzing data and to test the null hypotheses as defined in Chapter one. This chapter presents the descriptive statistics, the inferential statistics or the regression results and discussions on the same.

4.2 Quick Ratio Descriptive Statistics

This section presents the descriptive statistics on the characteristics of the quick ratios for the years of study that is 2008, 2009, 2010, 2011, 2012 and 2013.

4.2.1 Year 2008 Quick Ratio Descriptive Statistics

The study evaluated the characteristics of the quick ratio in the year 2008. The findings are indicated in table 4.1

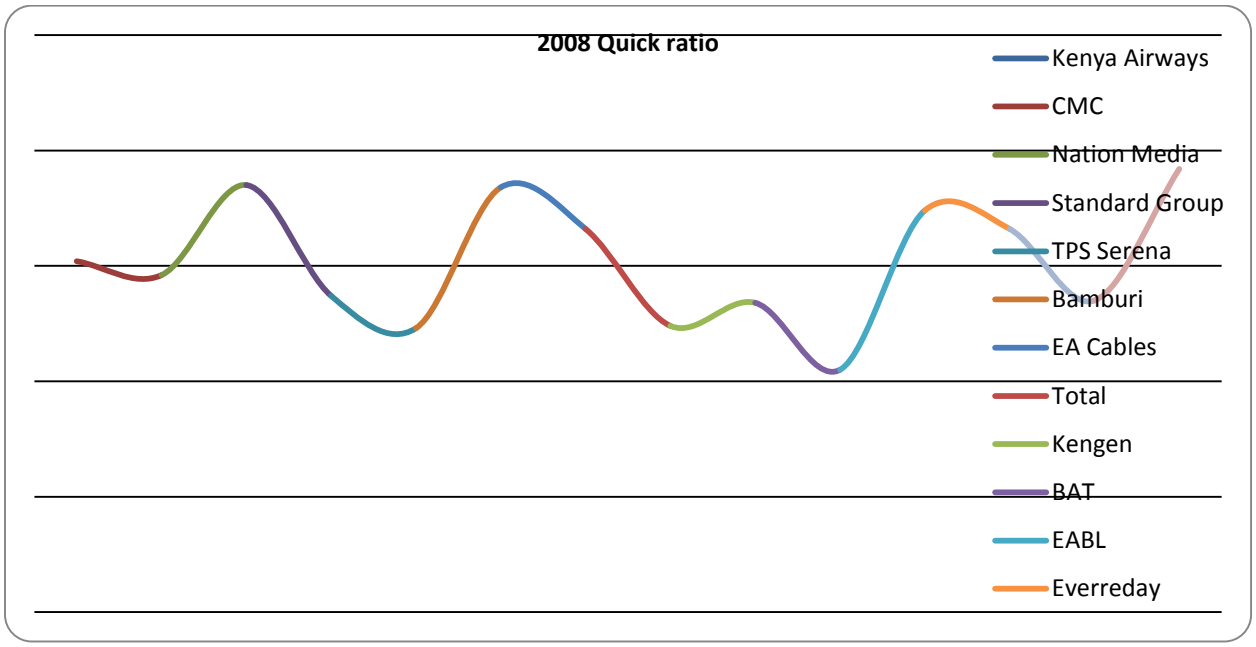
Table 4.1: 2008 Quick ratio Descriptive Statistics

Mean	1.516428571
Standard Error	0.071465101
Median	1.49
Standard Deviation	0.267397921
Range	0.87
Minimum	1.05
Maximum	1.92
Sum	21.23
Count	14

The findings indicate that the Quick ratios in the year 2008 ranged from a minimum of 1.05% to a maximum of 1.92% reflecting a range of 0.87%. With a medium of 1.49% the company's quick ratio were well distributed symmetrically around the mean of 1.52%. Given an average of

1.51, a standard deviation of 0.26 and a median of 1.49 this implied that the companies are of high liquid that is 1 and above. This is supported by the graph in figure 4.1.

Figure 4.1: 2008 Quick ratios



4.2.2 Year 2009 Quick Ratio Descriptive Statistics

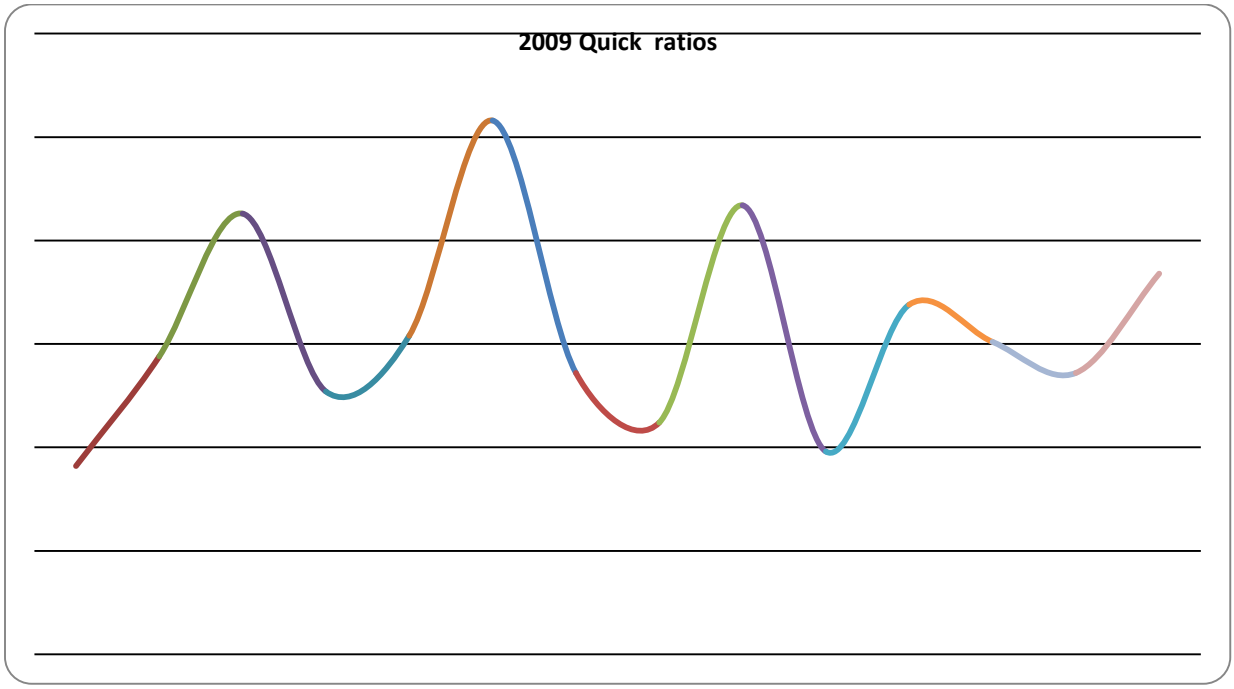
The study evaluated the characteristics of the quick ratio in the year 2009. The findings are indicated in table 4.2

Table 4.2: 2009 Quick ratio descriptive statistics

Mean	1.564285714
Standard Error	0.12766592
Median	1.475
Standard Deviation	0.477682133
Range	1.67
Minimum	0.91
Maximum	2.58
Sum	21.9
Count	14

The findings indicate that the Quick ratios in the year 2009 ranged from a minimum of 0.91% to a maximum of 2.58% reflecting a range of 1.67%. With a medium of 1.48% the company's quick ratio were well distributed symmetrically around the mean of 1.56%. Given an average of 1.56, a standard deviation of 0.48 and a median of 1.48 this implied that the companies are of high liquid that is 1 and above. This is supported by the graph in figure 4.2.

Figure 4.2: 2009 Quick Ratios



4.2.3 Year 2010 Quick Ratio Descriptive Statistics

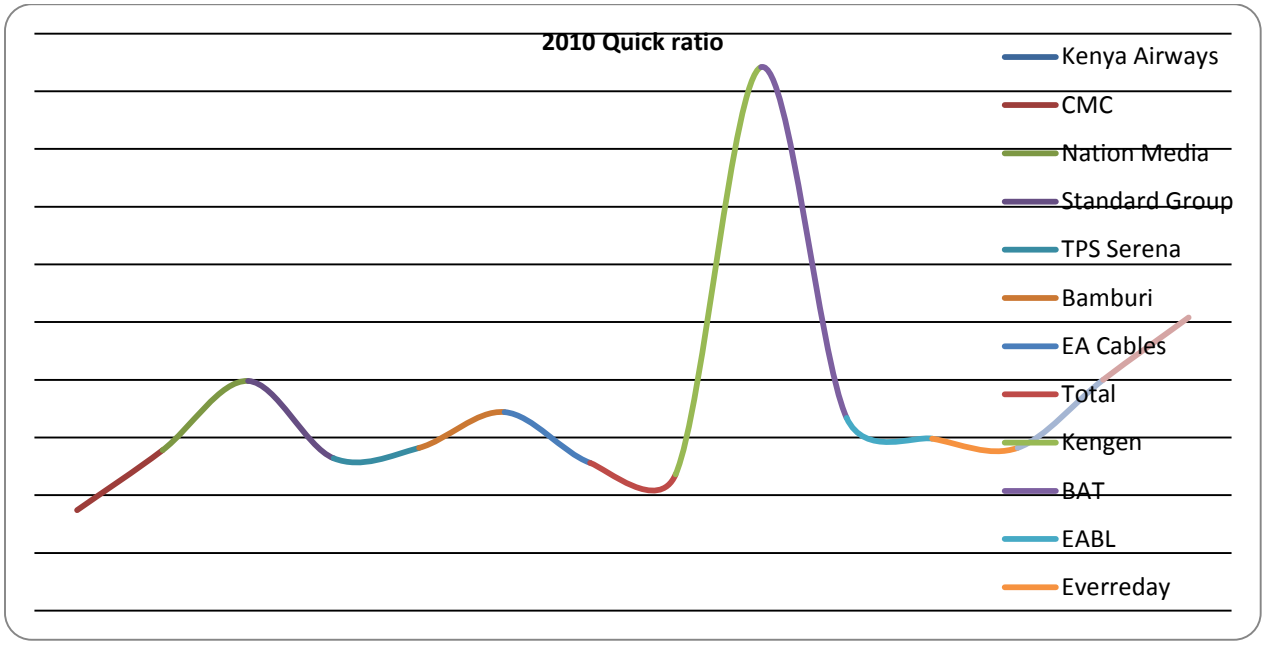
The study evaluated the characteristics of the quick ratio in the year 2010. The findings are indicated in table 4.3

Table 4.3: 2010 Quick ratio descriptive statistics

Mean	1.784285714
Standard Error	0.250605233
Median	1.45
Standard Deviation	0.937678921
Range	3.84
Minimum	0.87
Maximum	4.71
Sum	24.98
Count	14

According to the table above the findings indicate that the Quick ratios in the year 2010 ranged from a minimum of 0.87% to a maximum of 4.71% reflecting a range of 3.84%. With a medium of 1.45% the company's quick ratio were well distributed symmetrically around the mean of 1.78%. Given an average of 1.78, a standard deviation of 0.94 and a median of 1.45 this implied that the companies are of high liquid that is 1 and above. This is shown in figure 4.3 below

Figure 4.3: 2010 Quick ratios



4.2.4 Year 2011 Quick Ratio Descriptive Statistics

The study evaluated the characteristics of the quick ratio in the year 2011. The findings are indicated in table 4.4

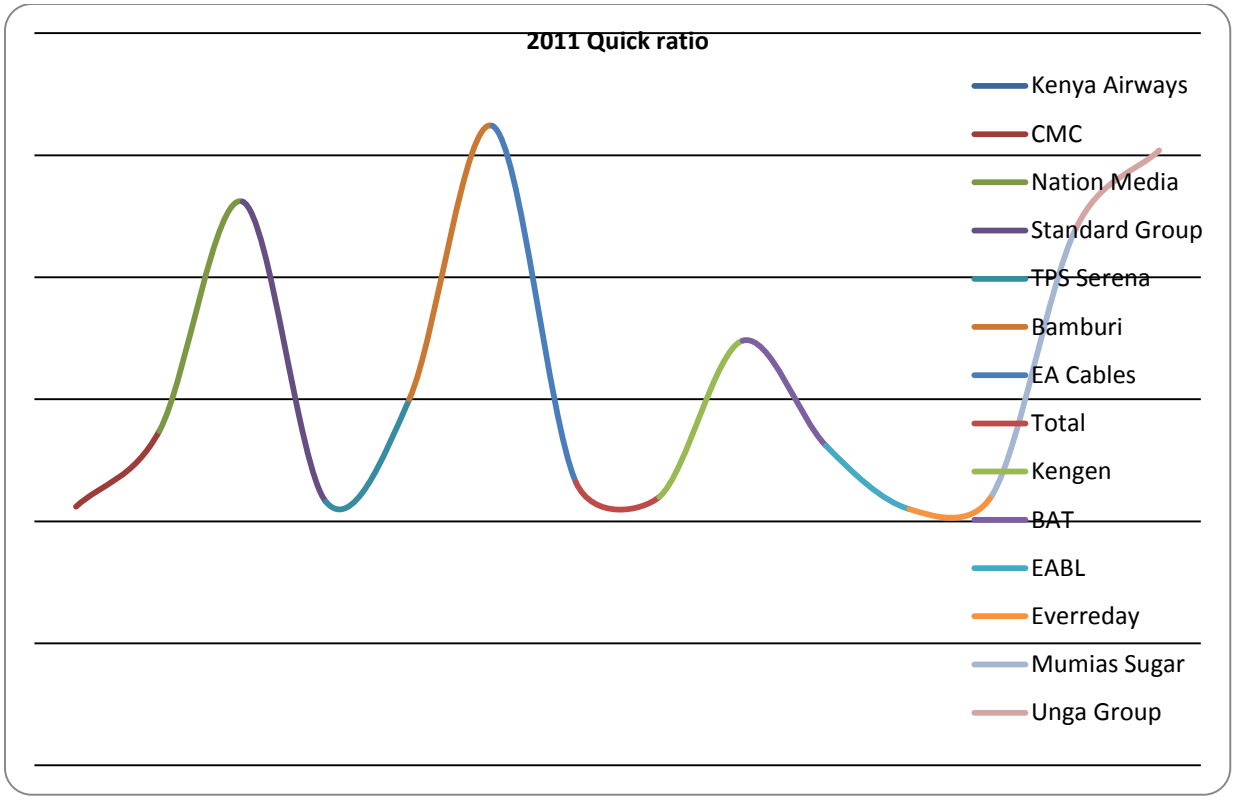
Table 4.4: 2011 Quick ratio descriptive statistics

Mean	1.580714286
Standard Error	0.156550958
Median	1.34
Standard Deviation	0.585760049
Range	1.57
Minimum	1.05
Maximum	2.62
Sum	22.13
Count	14

The findings indicate that the Quick ratios in the year 2010 ranged from a minimum of 1.05% to a maximum of 2.62% reflecting a range of 1.57%. With a medium of 1.34% the company's

quick ratio were well distributed symmetrically around the mean of 1.58%. Given an average of 1.58, a standard deviation of 0.59 and a median of 1.34 this implied that the companies are of high liquid that is 1 and above. This is as shown in figure 4.4 below.

Figure 4.4: 2011 Quick ratios



4.2.5 Year 2012 Quick Ratio Descriptive Statistics

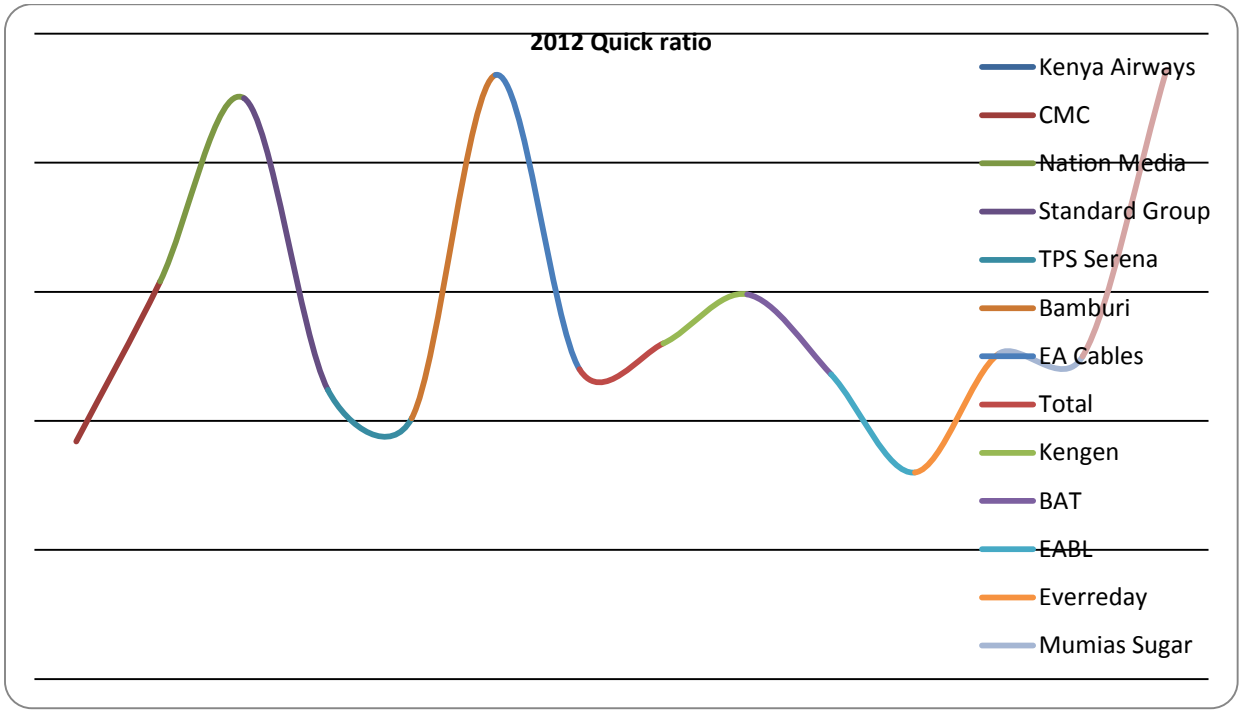
The study evaluated the characteristics of the quick ratio in the year 2012. The findings are indicated in table 4.5

Table 4.5: 2012 Quick ratio Descriptive statistics

Mean	1.43
Standard Error	0.138758229
Median	1.255
Standard Deviation	0.519185753
Range	1.56
Minimum	0.8
Maximum	2.36
Sum	20.02
Count	14

The findings indicate that the Quick ratios in the year 2012 ranged from a minimum of 0.8% to a maximum of 2.36% reflecting a range of 1.56%. With a medium of 1.26% the company's quick ratio were well distributed symmetrically around the mean of 1.43%. Given an average of 1.43, a standard deviation of 0.52 and a median of 1.26 this implied that the companies are of high liquid that is 1 and above. This is shown in figure 4.5 below.

Figure 4.5: 2012 Quick ratios



4.2.6 Year 2013 Quick Ratio Descriptive Statistics

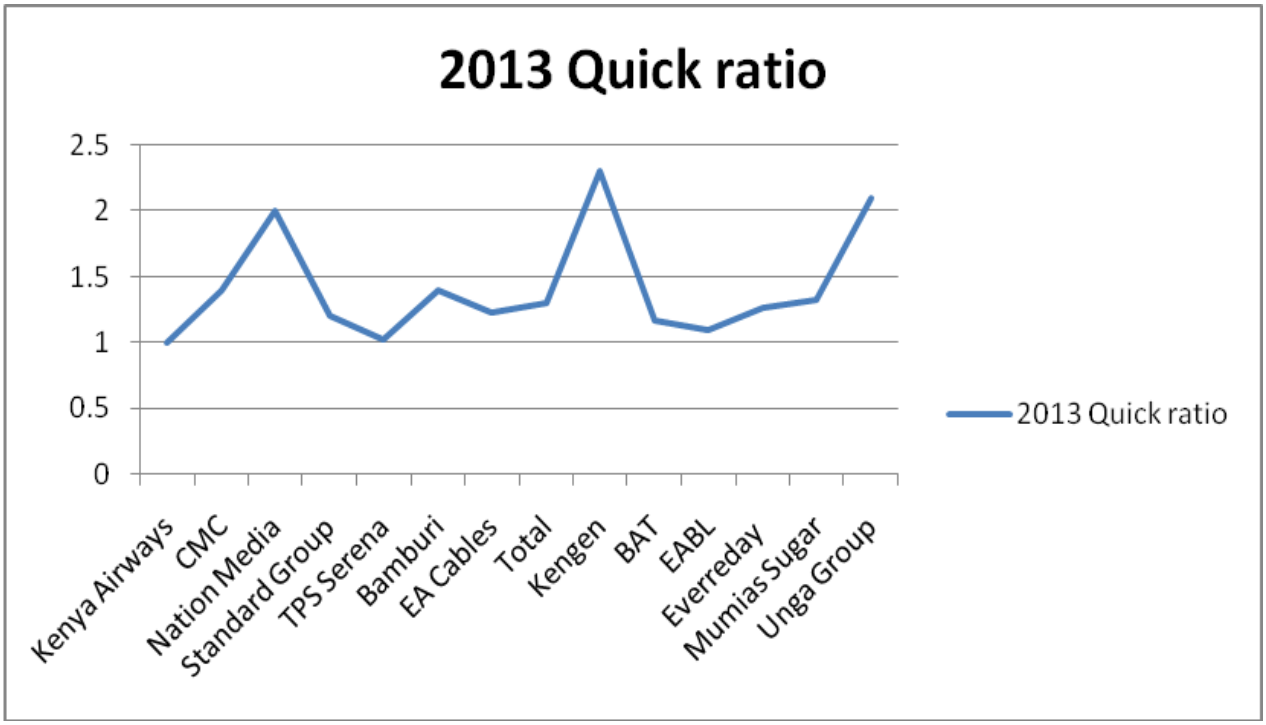
The study evaluated the characteristics of the quick ratio in the year 2013. The findings are indicated in table 4.6

Table 4.6: 2013 Quick ratio descriptive statistics

Mean	1.414285714
Standard Error	0.110178249
Median	1.28
Mode	1.4
Standard Deviation	0.412249258
Range	1.3
Minimum	1
Maximum	2.3
Sum	19.8
Count	14

The findings indicate that the Quick ratios in the year 2013 ranged from a minimum of 1% to a maximum of 2.3% reflecting a range of 1.3%. With a medium of 1.28% the company's quick ratio were well distributed symmetrically around the mean of 1.41%. Given an average of 1.41, a standard deviation of 0.41 and a median of 1.28 this implied that the companies are of high liquid that is 1 and above. This is shown in the figure 4.6 below.

Figure 4.6: 2013 Quick Ratios



4.3 Return Descriptive Statistics

This section presents the descriptive statistics on the characteristics of the risk free returns, market returns and the various portfolio excess returns.

4.3.1 Risk Free Rate Descriptive Statistics

The study evaluated the characteristics of the risk free rate returns as indicated by the 91 day Treasury bill over the study period. The findings are indicated in table 4.7.

Table 4.7: 91-Day Treasury Bill Descriptive Statistics

Mean	8.167472
Standard Error	0.482394
Median	7.7235
Standard Deviation	4.093246
Range	18.982
Minimum	1.632
Maximum	20.614
Confidence Level	95%

The findings indicate that the TB returns ranged from a minimum of 1.632% to 20.61% reflecting a range in returns of 18.982%. With the medium return as 7.7% the returns were well distributed symmetrically around the mean of 8.16%.

The implication of this can be described by computing the coefficient of variation (CV) being the average return per unit of return volatility as measured by standard deviation. In this case the CV is 0.50 indicating that for every 1% TB return there is expected to be an average fluctuation of 0.50. This implies a low level of TB return volatility.

4.3.2 Market Return Descriptive Statistics

The study then evaluated the characteristics of the market returns as indicated by the NSE 20 at the beginning of each month over the study period. The findings are indicated in table 4.8.

Table 4.8: Market Returns Descriptive Statistics

Mean	0.083731
Standard Error	0.782568
Median	1.048946
Standard Deviation	6.640306
Range	39.08148
Minimum	-20.1197
Maximum	18.96182
Confidence Level	95%

The findings indicate that the market returns ranged from a minimum of -20.12% to a maximum of 18.96% reflecting a range in returns of 39.08%. With the medium return as 1.05% the returns were well distributed symmetrically around the mean of 0.083%.

In this case the CV which is described as the average return per unit of return volatility as measured by the standard deviation is 79.31 indicating that for every 1% market return there is expected to be an average fluctuation of 79.31. This implies a very high level of market return volatility.

4.3.3 Market Return Premium Descriptive Statistics

After calculating the 91 day Treasury bill and the Market return then the study evaluated the characteristics of the market return premium which is calculated as the market return (R_m) minus the 91 day Treasury bill (R_f) over the study period. The findings are indicated in table 4.9.

Table 4.9: Market Return Premium Descriptive Statistics

Mean	-8.08374
Standard Error	0.907208
Median	-7.56011
Standard Deviation	7.697919
Range	42.44423
Minimum	-26.7394
Maximum	15.70482
Confidence Level	95%

The findings indicate that the market return premium ranged from a minimum of -26.74% to a maximum of 15.70% reflecting a range in returns of 42.44%. With the medium return as -7.56% the returns were well distributed symmetrically around the mean of -8.08%.

In this case the CV which is described as the average return per unit of return volatility as measured by the standard deviation is -0.95 indicating that for every 1% market return there is expected to be an average fluctuation of -0.95. This implies the market return premium is less volatility.

4.3.4 High liquid Portfolio Return Descriptive statistics

The study then evaluated the high liquid portfolio return which is indicated by the share price of the companies multiplied by the equal weights of the portfolio companies. The findings are indicated in table 4.10.

Table 4.10: High liquid Portfolio Return Descriptive Statistics

Mean	1.687199
Standard Error	1.001374
Median	1.421523
Standard Deviation	8.496937
Range	61.44182
Minimum	-16.5149
Maximum	44.9269
Confidence Level	95%

The findings indicate that the high liquid portfolio return ranged from a minimum of -16.5149% to a maximum of 44.92% reflecting a range in returns of 61.44%. With the medium return as 1.42% the returns were well distributed symmetrically around the mean of 1.69%.

In this case the CV is 5.04 indicating that for every 1% high liquid portfolio return there is expected to be an average fluctuation of 5.04. This implies that the high liquid portfolio return is volatile.

4.3.5 Low liquid Portfolio Return Descriptive Statistics

The study then evaluated the low liquid portfolio return which is indicated by the share price of the companies multiplied by the equal weights of the portfolio companies. The findings are indicated in table 4.11

Table 4.11: Low liquid Portfolio Return Descriptive Statistics

Mean	-6.48027
Standard Error	1.07371
Median	-6.79273
Standard Deviation	9.11073
Range	61.29739
Minimum	-25.3575
Maximum	35.9399
Confidence Level	95%

The findings indicate that the low liquid portfolio returns ranged from a minimum of -25.36% to a maximum of 35.94% reflecting a range in returns of 61.30%. With the medium return as -6.792% the returns were well distributed symmetrically around the mean of -6.48%.

Therefore the Coefficient of variation as described by computing the coefficient of variation (CV) being the average return per unit of return volatility as measured by standard deviation is -1.41 indicating that for every 1% low liquid portfolio return there is expected to be an average fluctuation of -1.41. This implies that the low liquid portfolio return is less volatility.

4.3.6 High liquid Portfolio Excess Return Descriptive Statistics

The study after evaluating the high liquid portfolio returns and the low liquid portfolio returns, it then evaluated the characteristics of the liquid portfolio excess returns as indicated by the high liquid portfolio return minus the risk free rate over the study period. The findings are indicated in table 4.12.

Table 4.12: High Liquid Portfolio Excess Return Descriptive Statistics

Mean	0.029309
Standard Error	0.703023
Median	-0.55856
Standard Deviation	0.5965349
Range	29.18749
Minimum	-13.9097
Maximum	15.27778
Confidence Level	95%

The findings pointed out that the high liquid portfolio excess returns ranged from a minimum of -13.91% to a maximum of 15.28% reflecting a range in returns of 29.18%. With the medium return as -0.56% the returns were well distributed symmetrically around the mean of 0.029%.

In this case the CV is 203.53 indicating that for every 1% of high liquid portfolio excess return there is expected to be an average fluctuation of 203.53. This implies a very high level of high liquid portfolio excess return volatility, it can also be said that the high liquid portfolio excess return is very risky.

4.3.7 Low liquid portfolio Excess Return Descriptive Statistics

The study also evaluated the characteristics of the Low liquid portfolio excess returns as indicated by the low liquid portfolio return minus the risk free rate over the study period. The findings are indicated in table 4.13.

Table 4.13: Low liquid Portfolio Excess Return Descriptive Statistics

Mean	-8.13816
Standard Error	0.862904
Median	-7.78743
Standard Deviation	7.321986
Range	33.72104
Minimum	-25.8057
Maximum	7.915316
Confidence Level	95%

The findings indicate that the low liquid portfolio excess returns ranged from a minimum of -25.81% to a maximum of 7.92% reflecting a range in returns of 33.72%. With the medium return as -7.79% the returns were well distributed symmetrically around the mean of -8.14%.

In this case the CV is -0.8997 as described by computing the average return per unit of return volatility as measured by standard deviation indicating that for every 1% low liquid portfolio excess return there is expected to be an average fluctuation of -0.8997. This implies a very low level of low liquid portfolio excess return volatility that is the low liquid portfolio excess return is less risky.

4.4 Inferential Statistics (Statistical Significance)

This section presents the inferential statistics (Statistical Significance). Inferential statistics was carried out based on the three objectives as follows:

4.4.1 Quick Ratios Regression Statistics

The first objective was to establish liquidity management of companies listed at the Nairobi Securities Exchange, F-test was conducted on the quick ratios for the 6 years of study. The regression results of the quick ratio are presented in table 4.14

Table 1.14: Quick ratio Regression Statistics

Year	Computed F	Critical F	Significance of difference
2008	38.52	4.75	Low liquid portfolio was significantly different from the high liquid portfolio.
2009	18.52	4.75	Low liquid portfolio was significantly different from the high liquid portfolio.
2010	5.89	4.75	Low liquid portfolio was significantly different from the high liquid portfolio.
2011	22.66	4.75	Low liquid portfolio was significantly different from the high liquid portfolio.
2012	13.10	4.75	Low liquid portfolio was significantly different from the high liquid portfolio.
2013	10.93	4.75	Low liquid portfolio was significantly different from the high liquid portfolio.

The study findings from table 4.14 revealed that the calculated F values were 38.52, 18.52, 5.89, 22.66, 13.10 and 10.93 for the year 2008, 2009, 2010, 2011, 2012 and 2013 respectively was more than the critical F which was 4.75. The year 2008 had the highest significance difference while 2010 recorded the lowest significance difference between the low liquid portfolio and the high liquid portfolio. This showed that there is a significant difference between the low liquid portfolio and the high liquid portfolio.

4.4.2 Security Market Performance Regression Statistics

The second objective was to determine the security market performance of companies listed at the Nairobi Securities Exchange, F-test was conducted on the high liquid return portfolio and the low liquid return portfolio for the entire period of study to determine whether there is a significant difference between the high liquid companies and the low liquid companies. . The regression results of the security market performance are presented in table 4.15

Table 4.15: Security Market performance regression analysis

Groups	Count	Sum	Average	Variance
HLPR	72	121.48	1.687	72.198
LLPR	72	6.536	0.091	35.579

ANOVA

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	91.746	1	91.746	1.703	0.194	3.908
Within Groups	7652.149	142	53.888			
Total	7743.895	143				

From the study it was revealed that there is a significant difference in the security market performance of high liquid portfolios and that of the low liquid portfolio, since the critical F (3.908) is more than the computed F (1.703). Therefore the study reject the null hypothesis that there is no significant difference in the market performance of low liquid companies and high liquid companies.

4.4.3 High liquid Portfolio and Low liquid Portfolio Regression statistics

In order to evaluate the statistical significance of the return premium coefficient associated with the two distinct liquidity portfolios. The study involves evaluation of the statistical significance of the excess returns of the liquidity-based portfolios over market excess returns. It is expected

that if liquidity management affects market return, the liquidity based portfolios should have differential (excess) returns of course over market returns.

Accordingly the statistical significance of β_0 in the regression model presented in chapter three is tested. This is done at 95% confidence interval using the t-statistic. To evaluate the effects of liquidity management the procedure is done for both the high liquid portfolio (constructed using the highest ratios) and the low liquid portfolio (constructed using the lowest ratio). The findings are presented in the sub sections below.

The regression results of the high liquid portfolio are presented in table 4.16

Table 4.16: High liquid Portfolio Regression Statistics

R Square	0.68698
Standard Error	1.01409
Observations	72

	Coeff	*Se*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95%*	*Upper 95%*
β_0	-1.82120	1.37461	-1.32488	0.18952	-4.56277	0.92038	-4.56277	0.92038
β_1	0.57635	0.12355	4.66483	0.00001	0.32993	0.82277	0.32993	0.82277

The derived model provides a regression output with an R-square value of 0.68698. This indicates that 69% of the changes in high liquid portfolio excess returns are explained by the model specification of market returns. Accordingly the model fits well to the data and can be used for further conclusions.

The study findings provide a β_0 of -1.8212 with t-statistic at 95% confidence interval of 1.32488 consequently the computed t is less than the critical $t_{0.025}$ at 71 degrees of freedom of 1.9945. The study therefore fails to reject the null hypothesis for the high liquid portfolio and concludes that liquidity management has no effect on security market performance of companies quoted at the NSE.

This leaves only market characteristics as indicated by the market excess return as the major determinant of market performance. This is confirmed by a statistically significant β_1 value (beta is an indicator of market risk) of 4.66483 which is greater than the critical value of 1.9945.

The regression results of low liquid portfolio are presented in table 4.17.

Table 4.17: Low liquid Portfolio Regression Statistics

R-Square	0.61218							
Standard Error	0.33345							
Observations	72							
	Coeff	*Se*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95%*	*Upper 95%*
β_0	-4.20002	1.08634	-3.86621	0.00024	-6.36666	-2.0334	-6.36666	-2.0334
β_1	0.48717	0.09764	4.98932	0.00000	0.29243	0.6819	0.29243	0.6819

The derived low liquid portfolio model provides a regression output with an R-square value of 0.61218. This indicates that 61% of the changes in low liquid portfolio excess returns are explained by the model specification of market returns, for that reason the model fits well to the data and can be used for further conclusions.

The study findings provide a β_0 of -4.20002 with t-statistic at 95% confidence interval of 3.86621 consequently the computed t is more than the critical $t_{0.025}$ at 71 degrees of freedom of 1.9945. The study therefore rejects the null hypothesis for the low liquid portfolio and concludes that liquidity management has an effect on security market performance of companies quoted at the NSE.

CHAPTER FIVE
SUMMARY OF FINDINGS, DISCUSSIONS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

The main objective of the study was to evaluate how liquidity management affects security market performance at the Nairobi Securities Exchange. The intention of this chapter therefore was to summaries the findings from the data analysis, draw conclusions and recommendations based on the findings of the study. This chapter also provides suggestions for further research in the field of liquidity management.

5.2 Summary and Discussion of the Findings

The summary of the findings of the research study are discussed under this section as per the objective areas.

5.2.1 Liquidity Management

In 2008 the Quick ratios ranged from a minimum of 1.05 to a maximum of 1.92 this reflects a sound and well managed companies that are in no danger of imminent collapse since all the companies quick ratios are above one. The average quick ratio in the year 2008 which is given by the sum of all the companies quick ratios divided by the number of companies is 1.52 this shows that most of the companies have over invested in liquid assets. In 2008 from the 14 companies under review the following companies had the highest quick ratios (high liquid companies) were 1.92, 1.85, 1.84 and 1.74 two of this companies were from the manufacturing and allied sector, one from the commercial and services sector and the other one from the construction and allied sector and the companies that recorded the lowest quick ratio (Low liquid companies) had the following values 1.34, 1.24, 1.23 and 1.05. Two of the companies with the lowest quick ratios were from the energy and petroleum, one from manufacturing and the other one from commercial and services sector.

In 2009 the quick ratios ranged from a minimum of 0.91 to a maximum of 2.58 this showed that these companies have an ability to meet their short term liabilities as and when they fall due. The average quick ratio in 2009 was 1.56 which is greater than one indicating that most of the

companies apart from two companies which had a quick ratio of 0.98 and 0.91 the rest had over invested in liquid assets. In 2009 from the 14 companies under review the following were the highest quick ratios (high liquid companies) 2.58, 2.17, 2.13 and 1.84 this were companies from the construction and allied, energy and petroleum, commercial and services and manufacturing sectors of the NSE respectively and the lowest quick ratios values (Low liquid companies) were 1.27, 1.12, 0.98 and 0.91 all from different sectors of the NSE.

In 2010 the quick ratios ranged from a minimum of 0.87 to a maximum of 4.71this year recorded the highest quick ratio average of 1.78. This indicated that in the year 2010 the 14 companies were very liquid and were able to meet their short term liabilities as and when they fall due. Therefore apart from one of the companies under the commercial and services which had a quick ratio of 0.87 the rest had over invested in liquid assets. In 2010 from the 14 companies under review the following are the values of the highest quick ratios (high liquid companies) 4.71, 2.54, 2 and 1.99, two of this companies with the highest liquidity were from the manufacturing and allied sector and the companies with the lowest quick ratios (Low liquid companies) values were 1.39, 1.32, 1.28 and 1.18. Two of companies with the lowest quick ratio were from the commercial and services sector.

In 2011 the quick ratios ranged from a minimum of 1.05 to a maximum of 2.62 this year recorded an average quick ratio of 1.58. This signifies that in the year 2011 the 14 companies were very liquid and were able to meet their short term liabilities as and when they fall due. Even though these ratios indicate that the 14 companies are able to meet their short term liabilities as they fall due, the companies have over invested in liquid assets at the expense of other investments. In 2011 2.62, 2.52, 2.31 and 2.2 recorded the highest quick ratios (high liquid companies). Two of these companies were from the manufacturing and allied sector and the lowest quick ratios (Low liquid companies) recorded were 1.08, 1.06, 1.05 and 0.64. two of the companies with the lowest quick ratio were from the commercial and services sector, one from the energy and petroleum and the other one from the manufacturing sector.

In 2012 the Quick ratios ranged from a minimum of 0.8 to a maximum of 2.36 this year recorded an average quick ratio of 1.43. This indicated that in the year 2012 the 14 companies were very

liquid and were able to meet their short term liabilities as and when they fall due. Therefore apart from the two companies from commercial and service and manufacturing and allied sector that had quick ratios of 0.92 and 0.8 respectively the rest of the companies had quick ratios of above one which means that they have over invested in liquid assets at the expense of other investments. In 2012 from the 14 companies under review the following were the highest quick ratios (high liquid companies) were 2.36, 2.34, 2.25 and 1.54. All of them were from different sectors of the NSE and the lowest quick ratio (Low liquid companies) values were 1.12, 1.01, 0.92 and 0.8. Three of the companies with the lowest quick ratio were from the commercial and allied sector and one from manufacturing and allied sector.

In 2013 the quick ratios ranged from a minimum of 1 to a maximum of 2.3 this year recorded an average quick ratio of 1.41. This signifies that in the year 2013 the 14 companies were very liquid and were able to meet their short term liabilities as and when they fall due. Even though these ratios indicate that the 14 companies are able to meet their short term liabilities as they fall due, the companies have over invested in liquid assets at the expense of other investments. In 2013 2.3, 2.1, 2 and 1.4 were the highest quick ratios (high liquid companies) and the lowest ratios (Low liquid companies) were 1.17, 1.1, 1.02 and 1 two of this quick ratios represent companies from the manufacturing and allied sector.

Lastly, from the 14 companies that is Kenya Airways, CMC, Nation Media, Standard Group, TPS Serena, Bamburi, E. A Cables, Total, BAT, EABL, Eveready, Mumias Sugar, Kengen and Unga Group out of the 6 years of study the average quick ratios from the highest to the lowest 2010, 2011, 2009, 2008, 2012 and 2013 that is 1.78, 1.58, 1.56, 1.52, 1.43 and 1.41 respectively. All the years had an average quick ratio of more than 1 meaning that the companies had over invested in liquid assets and also they had enough liquid assets to pay their liabilities as and when they fall due. The reason why this companies are highly liquid is attributed to the following the type of company quoted in this study mostly deal with liquid assets and also Kenya has been experiencing increased economic growth during the study period.

5.2.2 Market performance of companies

The second objective of the study was to determine the security market performance of companies listed at the NSE. This was done on the basis of descriptive statistics that is the Mean, Median, Standard deviation and the coefficient of variation

First, the characteristics of the Risk free rate(R_f) was calculated using the 91 day Treasury bill, the findings were the mean= 8.167, median = 7.724, standard deviation = 4.093 and the coefficient of variation = 0.50 at 95% confidence interval, this indicated that there is a low level of Treasury bill return volatility.

Secondly, the characteristics of the Market return (R_m) was calculated using the NSE 20 the findings were mean= 0.084, median = 1.047, standard deviation = 6.64 and the coefficient of variation = 79.31 at 95% confidence interval, this indicated that there is a high level of market return volatility, that is the market returns are risky.

The characteristic of the market return premium ($R_m - R_f$) revealed a mean= -8.084, median = -7.56, standard deviation = 7.698 and the coefficient of variation = -0.95 at 95% confidence interval, this indicated that there is a very low level of market return premium volatility, that is the market return premium is less risky.

The study then evaluated the high liquid portfolio return (HLPR) which is indicated by the share price of the companies multiplied by the equal weights of the portfolio companies. The findings are indicated a mean= 1.687, median = 1.422, standard deviation = 8.497 and the coefficient of variation = 5.04 at 95% confidence interval, this implied that the high liquid portfolio return is volatility.

The study also evaluated the low liquid portfolio return (LLPR) which is indicated by the share price of the companies multiplied by the equal weights of the portfolio companies. The findings are indicated a mean= -6.48, median = -6.793, standard deviation = 9.111 and the coefficient of variation = -1.41 at 95% confidence interval, this indicated that the Low liquid portfolio return is less volatility, that is the low liquid portfolio return is less risky.

Lastly the study evaluated the high liquid portfolio excess return and the Low liquid portfolio return. The findings of the high liquid portfolio excess return revealed a mean= 0.029, median = -0.559, standard deviation = 0.597 and the coefficient of variation = 203.53 at 95% confidence interval, this indicated that the high liquid portfolio excess return is very volatility, that is the high liquid portfolio excess return is very risky whereas the findings of the Low liquid portfolio excess return revealed that a mean= -8.138, median = -7.787, standard deviation = 7.312 and the coefficient of variation = -0.899 at 95% confidence interval, this implied that the Low liquid portfolio excess return is less volatility, that is it is less risky.

From the study findings of the high liquid portfolio excess return and the Low liquid portfolio excess return it was revealed that there is a significant difference between the market performance of high liquid portfolio companies and that of the low liquid portfolio companies since the high liquid portfolio companies are very risky (CV =203.53) while the low liquid portfolio companies are less risky (CV =-0.8991) as indicated by the coefficient of variation.

5.2.3 Effect of Liquidity Management on Security Market Performance

The third and last objective of the study was to evaluate the effect of liquidity management on market performance of companies listed in Nairobi Securities Exchange, this was done for both the high liquid portfolio companies and the low liquid portfolio companies.

The study findings on the high liquid portfolio companies revealed a β_0 of -1.8212 with t-statistic at 95% confidence interval of 1.32488 as a result the computed t is less than the critical $t_{0.025}$ at 71 degrees of freedom of 1.9945. The study therefore fails to reject the null hypothesis that Liquidity management does not influence the security market performance of companies listed at the NSE for the high liquid portfolio and concludes that liquidity management has no effect on the security market performance at the NSE. This is so because it leaves only market characteristics as indicated by the market excess return as the major determinant of market performance which is confirmed by a statistically significant $\beta_{1,}$ value of 4.66483 which is greater than the critical value of 1.9945.

The study findings on the Low liquid portfolio companies revealed a β_0 of -4.20002 with t-statistic at 95% confidence interval of 3.86621 consequently the computed t is more than the critical $t_{0.025}$ at 71 degrees of freedom of 1.9945. The study therefore rejects the null hypothesis that liquidity management has no effect on the security market performance at the NSE and concludes that liquidity management has an effect on the security market performance at the NSE.

5.3 Conclusion

This study was carried out to achieve the following objective: To establish liquidity management of companies listed in the NSE, to determine the market performance of companies listed in the NSE and to evaluate the effects of liquidity management on market performance of companies listed in NSE. From the findings the following conclusions were drawn:

Almost all the companies that were studied had a quick ratio of above 1 showing that they have tied a lot of their money on liquid assets, this may be because of the fear of not being able to meet their short term liabilities as and when they fall due and also because of the fear of imminent collapse. The study also revealed that there is no significant difference in the liquidity management performance of the companies listed at the NSE.

The study findings reject the null hypothesis that there is no significant difference in the market performance of low liquid companies and high liquid companies. From the study findings of the high liquid portfolio excess return and the Low liquid portfolio excess return it was revealed that there is a significant difference between the market performance of high liquid portfolio companies and that of the low liquid portfolio companies since the high liquid portfolio companies are very risky while the low liquid portfolio companies are less risky as indicated by the coefficient of variation.

Whereas the study fails to reject the null hypothesis (H_o) for the high liquid portfolio, it rejects the same for the low liquid portfolio. Accordingly liquidity management has an effect on the market return/ performance albeit for the low liquid companies. Because of the failure to influence market performance of high liquid companies it can be observed that the significance

of the effect of liquidity management on the market performance of companies listed at the NSE increases with the level of low liquid.

5.4 Recommendations

Most of the studies on liquidity management, including this one have focused on using statistical tests to examine returns and results are used to make conclusions. Therefore the results of this study should be interpreted diligently given that the analytical period is 72 months.

5.5 Suggestion for further studies

From the study finding the effects of liquidity management on market performance of high liquid companies are affected by other factors that are not included in the model such as nature of the company, size of the company, trading patterns and seasonality. Therefore there is need for further study in this area that will incorporate this factors.

The study used a regression model modified from CAPM, and CAPM is a single factor model thus a study should be conducted that will include multiple factors that affect market performance.

A study should be undertaken to compare the effects of liquidity management on companies listed at the NSE and those that are not listed at the NSE.

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APPENDICES

Appendix I: Data collection instrument

Month	**COMPANY (Quick ratio)**							**NSE 20 (share prices)**	**Market Cap**
	1	2	3	4	5	…….	63		
January 2008									
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December 2013									

Appendix II: Quick Ratios

QUICK RATIO						
	2008	**2009**	**2010**	**2011**	**2012**	**2013**
Kenya Airways	1.52	0.91	0.87	1.06	0.92	1
CMC	1.46	1.44	1.39	1.37	1.54	1.4
Nation Media	1.85	2.13	1.99	2.31	2.25	2
Standard Group	1.37	1.27	1.32	1.08	1.12	1.2
TPS Serena	1.23	1.54	1.41	1.5	1.01	1.02
Bamburi	1.84	2.58	1.72	2.62	2.34	1.4
EA Cables	1.66	1.36	1.28	1.16	1.2	1.23
Total	1.24	1.12	1.18	1.1	1.3	1.3
Kengen	1.34	2.17	4.71	1.74	1.49	2.3
BAT	1.05	0.98	1.67	1.31	1.18	1.17
EABL	1.74	1.69	1.49	1.05	0.8	1.1
Eveready	1.66	1.51	1.41	1.11	1.26	1.26
Mumias Sugar	1.35	1.36	2	2.2	1.25	1.32
Unga Group	1.92	1.84	2.54	2.52	2.36	2.1

Source: NSE (2014)

Appendix III: Market and Portfolio return data

Month	NSE-20	TB Rate	Rm	Rm-Rf	LPR	LRP-Rf	IPR	IPR-RF
Dec-07	5444.83	6.87						
Jan-08	4712.71	8.23	-13.45	-21.68	3.53971	-4.69029	5.97265	-2.2574
Feb-08	5072.41	8.02	7.63	-0.39	4.23899	-3.78101	11.3396	3.31963
Mar-08	4843.17	7.6	-4.52	-12.12	-0.9074	-8.50743	2.98293	-4.6171
Apr-08	5336.03	7.02	10.18	3.16	7.07566	0.05566	3.6822	-3.3378
May-08	5175.83	7.01	-3.00	-10.01	0.49368	-6.51632	-2.1841	-9.1941
Jun-08	5185.56	6.6	0.19	-6.41	3.93054	-2.66946	-1.4837	-8.0837
Jul-08	4868.27	8.031	-6.12	-14.15	-14.668	-22.6988	-4.0099	-12.041
Aug-08	4648.78	8.017	-4.51	-12.53	-9.5211	-17.5381	-2.3118	-10.329
Sep-08	4180.4	7.695	-10.08	-17.77	0.98368	-6.71132	-5.216	-12.911
Oct-08	3386.65	7.752	-18.99	-26.74	-16.515	-24.2669	-13.91	-21.662
Nov-08	3341.47	8.394	-1.33	-9.73	12.5026	4.10865	7.36545	-1.0285
Dec-08	3521.18	8.588	5.38	-3.21	5.90022	-2.68778	-2.0321	-10.62
Jan-09	3198.9	8.464	-9.15	-17.62	6.36688	-2.09712	15.2778	6.81378
Feb-09	3001	7.549	-6.19	-13.74	-14.577	-22.1263	-8.857	-16.406
Mar-09	2805.03	7.308	-6.53	-13.84	2.89553	-4.41247	11.6801	4.37208
Apr-09	2800.1	7.337	-0.18	-7.51	-0.1761	-7.51306	-3.4527	-10.79
May-09	2852.57	7.449	1.87	-5.58	7.49058	0.04158	1.53437	-5.9146
Jun-09	3294.56	7.332	15.49	8.16	14.4547	7.12274	15.2473	7.91532
Jul-09	3273.1	7.235	-0.65	-7.89	0.03332	-7.20168	-0.1561	-7.3911
Aug-09	3102.68	7.249	-5.21	-12.46	-5.5107	-12.7597	-0.4764	-7.7254
Sep-09	3005.41	7.288	-3.14	-10.42	-8.351	-15.639	-0.5419	-7.8299
Oct-09	3083.63	7.256	2.60	-4.65	0.21621	-7.03979	-0.1844	-7.4404
Nov-09	3189.55	7.215	3.43	-3.78	2.59889	-4.61611	-1.5198	-8.7348
Dec-09	3247.44	6.824	1.81	-5.01	4.61594	-2.20806	2.39585	-4.4281
Jan-10	3565.28	6.557	9.79	3.23	4.26662	-2.29038	1.68356	-4.8734
Feb-10	3629.41	6.213	1.80	-4.41	8.93815	2.72515	4.68623	-1.5268

Mar-10	4072.93	5.977	12.22	6.24	8.5019	2.5249	0.39819	-5.5788
Apr-10	4233.24	5.167	3.94	-1.23	5.59825	0.43125	-2.5779	-7.7449
May-10	4241.81	4.213	0.20	-4.01	-0.2623	-4.47527	-4.9856	-9.1986
Jun-10	4339.28	2.982	2.30	-0.68	0.11791	-2.86409	-2.5121	-5.4941
Jul-10	4438.58	1.632	2.29	0.66	7.72948	6.09748	4.2356	2.6036
Aug-10	4454.59	1.831	0.36	-1.47	-1.1034	-2.93439	-0.1105	-1.9415
Sep-10	4629.8	2.035	3.93	1.90	4.30886	2.27386	-0.5752	-2.6102
Oct-10	4659.56	2.121	0.64	-1.48	-4.9265	-7.0475	-2.6647	-4.7857
Nov-10	4395.17	2.211	-5.67	-7.89	-5.1711	-7.38211	-3.0257	-5.2367
Dec-10	4432.6	2.276	0.85	-1.42	11.38	9.104	7.58	5.304
Jan-11	4464.92	2.407	0.73	-1.68	-5.2878	-7.6948	-6.9937	-9.4007
Feb-11	4240.18	2.574	-5.03	-7.61	-5.5947	-8.16874	-6.7516	-9.3256
Mar-11	3387.07	2.769	-20.12	-22.89	-0.4974	-3.26644	-0.3263	-3.0953
Apr-11	4029.32	3.257	18.96	15.70	-0.0844	-3.34136	3.65284	0.39584
May-11	4078.1	5.348	1.21	-4.14	-1.5261	-6.87413	-1.3141	-6.6621
Jun-11	3968.12	8.954	-2.70	-11.65	0.06088	-8.89312	-9.4603	-18.414
Jul-11	3738.46	8.99	-5.79	-14.78	-8.7372	-17.7272	-6.4062	-15.396
Aug-11	3465.02	9.23	-7.31	-16.54	-2.6244	-11.8544	-7.2382	-16.468
Sep-11	3284.06	11.93	-5.22	-17.15	1.85936	-10.0706	-8.9599	-20.89
Oct-11	3507.34	15.313	6.80	-8.51	0.104	-15.209	-4.7277	-20.041
Nov-11	3155.46	16.601	-10.03	-26.63	-8.7565	-25.3575	-4.1074	-20.708
Dec-11	3205.02	20.24	1.57	-18.67	7.93198	-12.308	7.69909	-12.541
Jan-12	3224	20.614	0.59	-20.02	7.93198	-12.682	-3.9335	-24.547
Feb-12	3304	19.152	2.48	-16.67	-0.1978	-19.3498	-3.1364	-22.288
Mar-12	3367	17.006	1.91	-15.10	8.26748	-8.73852	-8.7997	-25.806
Apr-12	3547	14.992	5.35	-9.65	2.36833	-12.6237	14.3446	-0.6474
May-12	3651	9.865	2.93	-6.93	5.44428	-4.42072	-1.621	-11.486
Jun-12	3704	10.675	1.45	-9.22	3.48138	-7.19362	3.88491	-6.7901
Jul-12	3832	13.226	3.46	-9.77	3.74822	-9.47778	-5.8815	-19.108
Aug-12	3866	8.583	0.89	-7.70	3.79578	-4.78722	-2.2115	-10.794

Sep-12	3972	7.647	2.74	-4.91	-13.235	-20.882	1.15558	-6.4914
Oct-12	4147	9.945	4.41	-5.54	3.90128	-6.04372	-0.7383	-10.683
Nov-12	4083	8.987	-1.54	-10.53	44.9269	35.9399	-1.9197	-10.907
Dec-12	4133	8.138	1.22	-6.91	-0.4965	-8.63452	9.26271	1.12471
Jan-13	4417	8.036	6.87	-1.16	11.4035	3.36745	1.24852	-6.7875
Feb-13	4519	8.928	2.31	-6.62	5.44471	-3.48329	9.27859	0.35059
Mar-13	4861	10.318	7.57	-2.75	8.67776	-1.64024	9.23826	-1.0797
Apr-13	4765	10.206	-1.97	-12.18	-3.4453	-13.6513	1.64871	-8.5573
May-13	5006	8.482	5.06	-3.42	-2.6883	-11.1703	-8.0662	-16.548
Jun-13	4598	5.11	-8.15	-13.26	0.77436	-4.33564	0.75585	-4.3542
Jul-13	4788	6.863	4.13	-2.73	14.5147	7.65171	1.20955	-5.6534
Aug-13	4698	10.462	-1.88	-12.34	2.67897	-7.78303	-0.5959	-11.058
Sep-13	4793	9.109	2.02	-7.09	-1.0897	-10.1987	0.1281	-8.9809
Oct-13	4936	9.943	2.98	-6.96	4.1093	-5.8337	-1.5423	-11.485
Nov-13	5101	9.95	3.34	-6.61	0.14546	-9.80454	0.03186	-9.9181
Dec-13	4927	9.53	-3.41	-12.94	-12.32	-21.8498	0.02765	-9.5024

Source: NSE and CBK (2014)

Appendix IV: List of the sampled companies

- Bamburi
- BAT
- CMC
- EA Cables
- EABL
- Eveready
- Kengen
- Kenya Airways
- Mumias Sugar
- Nation media group
- Standard Group
- Total Kenya
- TPS Serena
- Unga Group

Source: NSE, 2014

Appendix V: List of all the companies quoted at the NSE

Agricultural

- Eaagads
- Kakuzi
- Kapchorua Tea
- The Limuru tea
- Rea Vipingo plantation
- Sasini Ltd
- Williamson Tea Kenya

Automobiles and Accessories

- Car and general (k)
- CMC Holdings
- Marshalls (E.A)
- Sameer Africa

Banking

- Barclays Bank
- CFC Stanbic of Kenya Holdings
- Diamond Trust Bank
- Equity Bank
- Housing Finance
- I &M Holdings
- KCB
- NBK
- NIC Bank
- Standard Chartered
- Co-op Bank of Kenya

Commercial and service

- Express
- Hutchings biemer
- Kenya airways

- Longhorn Kenya
- Nation media group
- ScanGroup Kenya
- Standard Group
- TPS E. A (Serena)
- Uchumi Supermarket

Construction and allied

- ARM Cement
- Bamburi Cement
- Crown Paints Kenya
- E.A. Cables
- E.A. Portland Cement

Energy and Petroleum

- KenGen
- KenolKobil
- KP&LC Ord
- KP&LC 4%
- KP&LC 7%
- Total Kenya
- Umeme Ltd

Insurance

- British American Investments
- CIC Insurance Group
- Jubilee Holdings
- Kenya Re Corporation
- Liberty Kenya Holdings
- Pan African Insurance

Investment

- Centum Investment
- Olympia Capital Holdings

- Trans-Century Ltd

Telecommunication and Technology

- Safaricom Ltd

Growth and Enterprise Market Segment (GEMS)

- Home Afrika Ltd

Manufacturing and allied

- B.O.C Kenya
- British American Tobacco
- Carbacid investment
- East African Breweries
- Eveready E.A
- Mumias sugar
- Unga Group
- A. Baumann and company
- Kenya orchards

Source: NSE, 2014