

**IMPACT OF LIQUIDITY AND SOLVENCY ON  
FINANCIAL PERFORMANCE OF FIRMS LISTED AT  
THE NAIROBI SECURITIES EXCHANGE**

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## **DECLARATION**

I declare that this Research Project is my original work and has not been submitted for examination in any other university or institution of higher learning .

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This Research Project has been submitted for examination with my approval as the University Supervisor

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## **DEDICATION**

I dedicate this research work to my lovely family: My dear husband John Kieti, my son Jotham Kieti and my parents Mr. and Mrs. Kyule for their love and support throughout the Master of Science program. May God bless you in abundance.

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## **ABBREVIATIONS**

<b>AMFI</b>	Association of Micro Finance Institutions Reports
<b>ANOVA</b>	Analysis Of Variance Technique
<b>CBK</b>	Central Bank of Kenya
<b>CMA</b>	Capital Markets Authority
<b>DTMFIs</b>	Deposit taking Microfinance Institutions
<b>FSA</b>	Financial Statement Analysis
<b>KNBS</b>	Kenya National Bureau of Statistics
<b>MFI</b> s	Microfinance Institutions
<b>NSE</b>	Nairobi Securities Exchange.
<b>RNOA</b>	Return on Net Operating Assets
<b>ROA</b>	Return on Assets
<b>ROE</b>	Return on Equity
<b>ROI</b>	Return on Investment
<b>SME</b> s	Small and Medium Enterprises
<b>SME</b> s	Small and Medium Enterprises
<b>SPSS</b>	Statistical Package for the Social Sciences

## **ABSTRACT**

Given that stakeholders are interested in liquidity and solvency ratios of companies and that they react differently when the ratios show increasing risks, then it means that liquidity and solvency can affect the performance of a firm. The objective of this study was to investigate the impact of liquidity and solvency on financial performance of firms listed at the Nairobi Securities Exchange. The study also tested whether financial leverage, Operational efficiency, Capital adequacy, and Size of the firm also affect the financial performance of these firms. Descriptive research design was used. The study covered a five year period from 2009 to 2013. Secondary data was collected from the annual reports of firms listed at the NSE. Data was then analyzed using a regression analysis model, SPSS version 21 and Microsoft Excel 2010. Tables and graphs were used to interpret the results of analysis. The findings showed that liquidity positively impacts on the ROA of the firms listed at NSE. However, the effect of liquidity on ROA is not statistically significant at 5% level of significance. Solvency negatively affects ROA of firms listed at NSE. Financial leverage was found to negatively influence ROA though the effect is not statistically significant. Capital adequacy positively affects ROA of the firms listed at NSE though the effect is not statistically significant at 5% level. Operational efficiency positively affects ROA and the effect is statistically significant at 5% level. Size of the firms listed at NSE negatively impacts on ROA and the effect is statistically significant at 5% level of significance. The study concludes that of all the variables considered, only operational efficiency and size of the firms are significant determinants of the financial performance of firms listed at NSE.

# CHAPTER ONE

## INTRODUCTION

### 1.1 Background of the Study

Company financing decisions involve a wide range of policy issues but at the micro level, such decisions affect short term funding, capital structure, corporate governance and company development. Mostly, the possible consequences of a decision that has been taken or is to be taken and the extent to which the results of a decision made may lead to loss or to an unfavourable outcome are unknown. This poses a risk and as Strong (2008), points out, the risk is an integral part of any investment decision taken. Among the financial risks faced by a firm is liquidity risk, solvency risk and profitability risks, but the organizations that embed the right risk management strategies into business planning and performance management are more likely to achieve their strategic and operational objectives. (Khidmat & Rehman, 2014).

According to Banafa et.al, (2015), the major indicators of financial performance of corporate entities are liquidity, solvency and profitability. Liquidity and solvency management are very important for every organization that means to pay current and long term obligations on business. The current payment obligations include operating and financial expenses that are short term whereas long-term obligations includes the long period debts. Liquidity and solvency can affect the performance of a firm. This is explained by the fact that stakeholders are interested in liquidity and solvency ratios of companies, so they react differently when the ratios show increasing risks. The investors for instant, are interested in the solvency position of a firm to know whether to continue with their investment plans. Suppliers check the solvency position of the companies before delivering the goods. Therefore, managing these risks is an

important factor which companies must attend to if they are to remain financially healthy.

Managers should strive to reduce or manage the effects that liquidity and solvency risk will have on the institution's profitability to in order to maintain an acceptable productivity level. This will require effective planning that allows managers to be proactive and anticipate change, rather than be reactive to unanticipated change (Monnie, 1998). The researcher notes that while there are studies on liquidity and solvency, none of them have been conducted in the context of firms listed in the NSE. This study therefore endeavors to assess the impact of liquidity and solvency on financial performance of the firms listed at the Nairobi Securities Exchange.

### **1.1.1 Liquidity**

Liquidity refers to the available cash for the near future, after taking into account the financial obligations corresponding to that period. It is the amount of capital (Cash, credit and equity) that is available for investment and spending (Qasim & Ramiz (2011). An illiquidity of a firm means that it cannot obtain sufficient funds, either by increasing liabilities or by converting assets promptly, at a reasonable cost. In periods during which the firms don't enjoy enough liquidity, they cannot satisfy the required resources from debt without conversion the asset into liquidity by reasonable cost. In this stage the company is said to experience a liquidity risk. Liquidity risk is the probability that the organization shall not be able to make its payments to creditors, as a result of the changes in the proportion of long term credits and short term credits and the uncorrelation with the structure of organization's liabilities (Nyabwanga, 2013).

Liquidity risk can be measured by two main methods which are liquidity gap and liquidity ratios. The liquidity gap is the difference between assets and liabilities at both present and future dates. Liquidity ratios on the other hand are three liquidity ratios and they include the current ratio, the quick ratio and the capital ratio (Mwangi, 2014). Liquidity management is very important for every organization that expects to pay current obligations on business, for example operating and financial expenses that are short term. Liquidity therefore, not only helps ensure that a person or business always has a reliable supply of cash close at hand, but it is a powerful tool in determining the financial health of future investments as well. Under critical conditions, lack of enough liquidity even results in bank's bankruptcy (Khidmat & Rehman, 2014).

### **1.1.2 Solvency**

Solvency is defined as the ability of an institution to meet its short, middle and long term financial obligations. It is the ability of a business to meet its obligations in the event of cessation of activity or liquidation. A firm is considered as solvent if the existing assets exceed or equal total liabilities. However, if total assets are lower than current liabilities, the firm faces an insolvency risk and cannot pay its debts (Jackson et al., 2002). Solvency is usually measured by ratios. There are three main ratios used to measure solvency: the solvency ratio, the net worth ratio, and the leverage ratio. The solvency ratio divides total liabilities by total assets and determines the amount of debt per dollar of assets. The net worth ratio, which is the ratio of total equity to total asset uses the owner's equity in the business to indicate future solvency owned and the leverage ratio compares debts to equity (Khidmat & Rehman 2014).

Solvency impacts a company's ability to obtain loans, financing and investment capital. This is because solvency indicates a company's current and long-term financial health and stability as determined by the ratio of assets to liabilities. In other words, the degree of solvency in a business is measured by the relationship between the assets, liabilities and equity of a business at a given point in time. A company may be able to cover current or upcoming liabilities by quickly liquidating assets with little business interruption. However, fluctuations over time in the value of assets while the value of liabilities remains unchanged affect asset-to-liability ratios. The accounting equation:  $\text{assets} = \text{liabilities} + \text{equity}$ , means that businesses usually have positive equity. When this equity becomes negative, the business is said to be insolvent. By subtracting liabilities from assets you calculate the amount of equity in a business. The larger the number is for the equity amount the better off is the business. But everything is relative. Larger businesses need more equity to remain viable than does a smaller business. Bankruptcy is just around the corner for an insolvent business if it does not generate enough cash flow income to meet its debt requirements in a timely manner (Obudho, 2014).

### **1.1.3 Financial Performance**

Financial performance is the use of many different mathematical measures to evaluate how well a company is using its resources to make a profit. Companies and analysts focus on financial performance because it plays a critical role not only in evaluating the current financial health and stability of a firm but also in achieving high performance and growth in the future. Investors measure overall company performance in order to be able to make right investment decisions (Phani et.al, 2000). The essence of the problem with financial performance measures is that although numerous shareholders own a public corporation, control over its operations

is in the hands of professional managers, whose interests often diverge from those of the silent majority of shareholders. Thus shareholders may be required to allow them to hold relatively few shares and send them the right signals through performance measures in order to make their decision in the best interest of the company as a whole organization and in the best interest of the shareholders (Stern et.al, 2001).

Three main functions of financial performance measures and management have been identified: One, as a primary objective of a business organization which is to maximize the needs of the external suppliers of company's capital - shareholders. The main interest of shareholders are the rate of return on their capital which includes dividends and capital gains on the market value of their shares for a period divided by the share value at the start of a period. Shareholders seek to hold their managers accountable for the performance of the assets entrusted to them. External financial reports are intended to meet these needs. Secondly, financial performance acts as a tool of financial management. Financial performance management provides financial management with valuable information for planning, controlling, capital investment decisions, budgeting and ratio analysis. The third major function of financial performance measurement lies in its internal use as a means of motivating and controlling the activities of managers so that they concentrate on increasing the overall value of the business or, at least, the value attributable to the shareholders (Brignall & Stan, 2007).

Most of the traditional financial performance measures directly relate to the current net income of a business entity with equity, total assets, net sales, like return on equity (ROE) and operating profit margin. A common performance measurement tool is Return on Investment (ROI) which evaluates the performance by comparing its accounting measure of income to its accounting measure of investment. The formula

to measure ROI is Income/Investment. Return on equity (ROE) is another performance measure and it is determined as the ratio of profit generated to the total investment capital provided by the owners of the company. It measures the profitability with which the owner's money was managed. Return on Asset (ROA) is measured as the ratio of profits generated to the total assets under the responsibility of management. It reflects the net impacts of management decisions and actions along with the businesses environment of the company during a period of time (Brewer et.al., 1999). Since ROA reflects the efficiency of all the assets under the control of management, it is an intuitively understanding measure of performance; therefore, this study will measure financial performance using ROA.

#### **1.1.4 Effect of Liquidity and Solvency on Financial Performance**

Company executives must ensure that their organization does not suffer a shortage or a surplus of payment means and they must be ready to cover current and long term liabilities when necessary. At the same time, the management's aim is an increase in the company's returns. New businesses work toward reaching a breakeven point, which is the point at which a company generates enough income to pay all of its expenses and begin to show a profit. For the purposes of profitability, income refers only to that generated from your company's primary business activities, such as selling products or services. Expenses also result from business activities and include resources purchased and used to carry out the activities. Liquidity and solvency measures have a significant impact on improving cost efficiency. Firms with larger expenditures on inputs relative to capital are less likely to improve efficiency when liquidity and solvency are considered (Russell, Langemeier & Briggeman, 2013),

According to Garanina and Olga (2015), Managing liquidity and the cash conversion cycle play an important role in running a business successfully. Liquidity



management means ensuring that the institution maintains sufficient cash and liquid assets to satisfy cash demands and to pay the institution's expenses. In order to manage liquidity, an institution must have a management information system in place that is sufficient to generate the information needed to make realistic growth and liquidity projections (Monnie, 1998). The findings of a local study by Maaka (2013), showed that profitability of the commercial banks in Kenya is negatively affected by increase in the liquidity gap and leverage. Therefore, with a significant liquidity gap, the financial institutions may have to borrow from the repo market even at a higher rate thereby pushing up the cost of banks and this will affect their financial performance.

On the other hand, Solvency and profitability are two distinct yet interdependent aspects of a company's financial health. While solvency involves assets and liabilities, profitability involves income and expenses. A solvent company has assets that exceed its liabilities sufficiently to provide for reinvestment in the company's growth. A company might improve solvency by selling some assets to pay down debt, increasing the owner's equity, reinvestment of assets and capital in the business, avoidance of new debt and proper care of existing assets. The standard for profitability requires that income derived from the company's business activities exceeds the company's expenses. While a company can be solvent and not profitable, it cannot be profitable without solvency. This means that, although solvency is a prerequisite for profitability, increased profitability improves solvency and eventually financial performance. Findings by Khidmat and Rehman (2014), showed that the solvency ratio has negative and highly significant impact on the financial performance of firms.

### **1.1.5 Firms Listed at the Nairobi Securities Exchange**

Nairobi Securities exchange (NSE), formerly known as the Nairobi Stock exchange has been in existence since the 1920's. It used to operate as an informal market for Europeans when Kenya was still a British colony but as a more formal financial market can be traced to be formed in 1954 when it was a voluntary organization of stockbrokers. It was a private operation until year 1991 when the NSE was registered under the Companies Act. The administration of the Nairobi Securities Exchange is located on Tosica five storey building located at 55 Westlands road in Nairobi. Nairobi securities exchange. As at 31<sup>st</sup> December 2014, only 67 firms in Kenya were listed, having met the preconditions set in order to get their shares traded at the NSE. NSE is the only market where financial products, precisely shares and bonds, of listed companies are exchanged in Kenya. It is the sub-Saharan Africa's fourth-largest securities exchange market and one of the most active financial markets in the continent. It now lists fixed-income securities and small-cap shares as well as cross-listing equities with neighboring bourses. (NSE, 2015).

As a capital market institution, the Nairobi Securities Exchange plays an important role in the process of economic development. For instant, The NSE has enabled companies to engage local participation in their equity, thereby giving Kenyans a chance to own shares. It helps mobilize domestic savings thereby bringing about the reallocation of financial resources from dormant to active agents. Long-term investments are made liquid, as the transfer of securities between shareholders is facilitated. Companies can also raise extra finance essential for expansion and development. Nairobi Securities Exchange also enhances the inflow of international capital (CMA, 2015)

Managers and practitioners of firms listed at the NSE still lack adequate guidance for attaining optimal financing decisions that have minimal liquidity risk, solvency risk and profitability risks thus leading to a good financial performance that will keep their shares selling at a higher value. Many of the problems experienced by the companies put under statutory management are largely attributed to financing. This situation has led to loss of investors' wealth and confidence in the securities market (Banafa et.al, 2015) NSE as a company also faces challenges as a securities market, for instant, like high maintenance costs, lengthy listing procedures, implementing the legal and regulatory framework such as Internet trading guidelines, offer of securities rule, securities and investment bill (Maina, 2014). This study will be helpful as it will explore the impact of liquidity and solvency on financial performance of these firms. Findings will guide the managers to know whether to keep their company liquidity and solvency levels high or low. Liquidity and solvency management will ensure its smooth running of operations and that firms can meet their short and long term obligations when they fall due

## **1.2 Research Problem**

One of the most tough and controversial task is to build performance management system which will assure that managers will make decisions that will increase shareholders' wealth. Therefore, proper planning must be done to mitigate the risks that may affect the profits or prevent achievement of this goal. Among the risks faced by a firm is liquidity risk, solvency risk and profitability risks, but the organizations that implant the right risk management strategies into business planning and performance management are more likely to achieve their strategic and operational objectives (Khidmat & Rehman, 2014). Liquidity and solvency management are therefore very important to enable a company pay current and long term obligations.

Failure to properly manage these risks may lead to serious consequences as it might affect the overall capital and earnings of an institution adversely and even lead to bankruptcy (Mwangi, 2014).

This study has reviewed the existing literature in relation to the impact of liquidity and solvency on financial performance. Findings by Khidmat and Rehman (2014), Nyabwanga (2013), Maaka (2013), Obudho (2014) and Banafa et.al, (2015), showed that the liquidity and solvency ratios have negative impact on the ROA. On the contrary, Langemeier and Briggeman (2013), confirmed that liquidity and solvency measures have a significant impact on improving cost efficiency and thus increasing financial health of firms. Further, Ehiedu (2014) and Mwangi (2014), found a significant impact of liquidity on profitability and recommended that corporate entities should not pursue extreme liquidity policies at the expense of their profitability but they should strike a balance between the two performance indicators.

The researcher notes that while there are various studies on the impact of liquidity and solvency on financial performance, none of them have been conducted in the context of firms listed at the NSE in Kenya. Previous studies have also either concentrated on liquidity effects on performance or solvency effects on performance but not both variables effect on performance in the same study. International studies seem to investigate the effects of liquidity and solvency risks on profitability and cost effectiveness and not financial performance using different research methodologies. Results of existing literature give mixed conclusions as some show negative relationship, others positively significant relationship and others no relationship at all. This study therefore endeavors to assess the impact of liquidity and solvency on financial performance by answering the question: Does liquidity and solvency have impacts on financial performance of firms listed at the Nairobi Securities exchange?

### **1.3 Objective of Study**

To investigate the impact of liquidity and solvency on financial performance of firms listed at the Nairobi Securities Exchange

### **1.4 Value of Study**

The study will be useful to likely investors in easier monitoring of firms whose liquidity and solvency levels are questionable. This will help these investors in making wise investment decisions. It will also shed light on the various factors besides liquidity and solvency that could affect the performance of the listed firms. This will benefit investors to take advantage on the investment opportunities available when these variables vary.

This study will help management of firms to formulate strategies to mitigate against liquidity risks and solvency risks to be adopted for their efficiency in financial operations. A study of financial performance of Firms listed at the NSE in Kenya being dependent on the level of the liquidity and solvency will bring out the extent of the impact. The findings will enable these managers to know whether to increase or reduce liquidity and solvency levels in order to facilitate favorable financial performance of these institutions.

The study will also provide useful insights of liquidity and solvency to CMA the regulator of NSE on how various legal, regulatory and procedural requirements could impact on the finance performance of firms as they endeavor to conform. In this way, the study findings will offer useful inputs to advise the review of the legal framework and influence effective formulation of regulatory policies.

This study will provide a platform for quality discussion and debates amongst academicians, policy makers, and professionals and provides a basis for further

research. The current research in this field will be expanded by this paper because characteristically, it will be first to study the impact of liquidity and solvency on financial performance of all the firms listed at the NSE.

## **CHAPTER TWO**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

This chapter will discuss the different theories, literature and review of empirical studies both internationally and locally on operational efficiency and financial performance.

#### **2.2 Theoretical Review**

Diverse philosophies and theories guiding this research study will be discussed in this section. These theories are going to be; The Liability Management Theory, The Shiftability Theory of liquidity and the Risk Management Theory. These theories are aimed to show the link between liquidity, solvency and financial performance.

##### **2.2.1 The Liability Management Theory**

The Liability Management theory emerged in the year 1960 and it is so far one of the important liquidity management theory because liquidity and liability management are closely related. According to Emmanuel (1997), the theory postulates that there is no need to follow old liquidity norms like maintaining liquid assets, liquid investments among others. This is because according to this theory, banks and other firms can satisfy liquidity needs by borrowing in the money in capital markets. However, excessive use of purchased funds in the liability structure can result in a liquidity crisis if investors lose confidence in the institution and refuse to roll over such funds.

Most firms today focus on liabilities side of the statement of financial position, but according to Diamond and Rajan (2001), the fundamental contribution of this theory was aimed at making firms consider both sides of the statement as sources of

liquidity. To an extent, the theory's objective has been achieved because today, banks among other firms use both assets and liabilities to meet liquidity needs. Management of money received by a firm from clients as well as funds secured from other institutions constitute liability management. It also involves hedging against changes in interest rates and controlling the gap between the maturities of assets and liabilities. Asset liability on the other hand is the practice of managing risks that arise due to mismatches between the assets and liabilities

This theory is relevant in this study because as earlier mentioned, firms are using both assets and liabilities to meet liquidity needs and therefore, the management of liquidity is relevant. Liquidity management according to Monnie (1998), means ensuring that institutions maintains sufficient cash and liquid assets. Reasons for this are: First, to satisfy client demand for loans and savings withdrawals and secondly, to pay the institution's expenses. Liquidity management involves a daily analysis and detailed estimation of the size and timing of cash inflows and outflows over the coming days and weeks to minimize the risk that savers will be unable to access their deposits in the moments they demand them. In order to manage liquidity, an institution must have a management information system in place, which is sufficient to generate the information needed to make realistic growth and liquidity projections.

### **2.2.2 The Shiftability Theory of Liquidity**

The shiftability theory of liquidity was proposed by Moulton (1918), who affirmed that if the institutions especially of finance maintain a substantial amount of assets that can be shifted for cash without material loss in case of necessity, then there is no need to rely on maturities. In other words, for an asset to be perfectly shiftable, it must be immediately transferable without capital loss when the need for liquidity arises.



This is particularly applicable to short term market investments, such as treasury bills which can be immediately sold whenever it is necessary to raise funds by these firms.

Today, this theory has certain essentials of truth because shares and debentures of large companies are accepted as liquid assets along with treasury bills and bills of exchange. This approach lets the system of financial firms run more efficiently: with fewer reserves or investing in long-term assets. However, this theory has weaknesses. First, mere shiftability of assets does not provide liquidity to the firms as it entirely depends upon the economic circumstances. Second, the shiftability theory ignores the fact that in times of acute depression, the shares and debentures cannot be shifted on to other firms. In such a situation, there are no buyers and all who possess them want to sell them. Third, a single institution may have shiftable assets in sufficient quantities but if it tries to sell them when there is a run, it may adversely affect the entire finance system. Fourth, if all the financial institutions simultaneously start shifting their assets, it would have disastrous effects on both the lenders and borrowers.

### **2.2.3 The Risk Management Theory**

Risk refers to a situation where the possible consequences of a decision taken or to be taken are unknown. It implies the extent to which the results of a decision made may lead to loss or unfavourable outcome. As Strong (2008) points out, the risk is an integral part of any investment decision taken and therefore management against liquidity and solvency risks is important. The importance of risk management can never be refuted as far as the sustainability of any organization in the long term is concerned. It involves the identification and evaluation, as well as prioritization of risks pertaining to any institution, entity or aspect of an entity. This would be

followed by a coordinated, as well as economical utilization of resources in an effort to reduce, control and monitor the impact and probability pertaining to the unfortunate event.

Liquidity risk is the probability that the organization shall not be able to make its payments to creditors, as a result of the changes in the proportion of short term credits and the solvency risk is the probability of an institution not to meet its short, middle and long term financial obligations or in the event of cessation of activity or liquidation (Nyabwanga, 2013). Risk management is a continuous process that requires an organization to sufficiently implement security measures in order to reduce threats and vulnerability of its private information. The primary role of risk management is to apply and integrate the concepts of confidentiality, integrity and availability, therefore, the integration of confidentiality into an information security program helps to secure the system by restricting access to information and disclosure consequently to unauthorized persons (Radack, 2004).

This theory will be essential in this study as it will help managers have a clear perspective of risks relation to their operations. Risk assessment should **be** a mandatory step as well as defining their probability of undertaking. Risk Assessment refers to the process of examining what may cause harm during work time in order to weigh up whether enough precautions have been taken to minimize risks as much as possible or whether there is need for more control actions to prevent harm (Titterton, 2005). This study will help in discussing about liquidity and solvency risks thus forming part of the other sources that will familiarize managers about organizational risks.

## **2.3 Factors Affecting Financial Performance**

The financial performance of firms can be determined by micro and macro factors. This study will concentrate on micro especially firm specific determinants of financial performance. These factors will include: Solvency, Liquidity, Financial Leverage, Capital Adequacy, Operational efficiency and Size of a Firm.

### **2.3.1 Solvency**

Jackson et al., (2002), defines solvency of a firm as when the total assets of that firm are higher than its current liabilities, thus it can pay its debts. Solvency indicates a company's current and long-term financial health and stability therefore it impacts a company's ability to obtain loans, financing and investment capital. Solvency can affect performance of a firm given that stakeholders are also interested in solvency ratios of companies. A research by Khidmat and Rehman (2014), concluded that Suppliers for example, check the solvency position of the companies before delivering the goods. The investors are also interested in solvency position on how much the company is risky. Finally, he concluded that liquidity, solvency and profitability are closely related because one increases the other decreases and therefore they are determinants of financial performance.

### **2.3.2 Liquidity**

Liquidity is the term used to describe how easy it is to convert assets to cash. According to Mwangi (2014), the most liquid asset, and what everything else is compared to, is cash. This is because it can always be used easily and immediately. Diamond and Rajan (2001) state that an institution may refuse to lend, even to a potential entrepreneur, if it feels that its liquidity need is quite high. This is an opportunity loss for the lending firm. Banafa, Muturi and Ngugi (2015), sought to

establish the effects of liquidity on performance of listed non-financial firms in Kenya and the results of their statistical tests shows that liquidity, has positive effect on corporate performance (ROA). The study even recommended that financial managers must decide both how much liquidity to hold and the way in which they hold this liquidity to curb financial risks.

### **2.3.3 Financial Leverage**

The combination of debt and equity to finance firm's short term and long-term assets is stated as financial leverage of the firm (Saleem, 2013). Debt and Equity are the basic components of the firm's financial leverage. Financial structure is most often referred to as firm's debt-to-equity ratio, which provides insight into how risky a company is. According to Jensen (1986), there's an optimal debt ratio that maximizes the value of a firm and that there is an advantage to financing with debt as interest paid on debt by firms is lower than the interest paid on equity. However, a company that is more heavily financed by debt poses greater risk, as this firm is relatively highly leveraged. Maximizing the wealth of shareholders requires a perfect combination of debt and equity, whereas cost of capital has a negative correlation in this decision and it has to be as minimum as possible (Ongena and Smith, 2000), asserted that by changing the financial structure of debt and equity composition a firm can increase its value in the market.

### **2.3.4 Capital Adequacy**

Capital adequacy is the Percentage ratio of an institution's primary capital to its assets (loans and investments), used as a measure of its financial performance or the company's financial strength and stability. Profitable institutions which have a considerably more capital adequacy are shown to have higher sustainability,

efficiency and outreach. Shareholders who are the external suppliers of company's capital entrust their money to companies' managers in hope that the latter will increase the shareholders' value (Phani, et.al, 2000). Findings by Olalekan and Adeyinka (2013) showed a positive and significant relationship between capital adequacy and profitability of financial institutions in Nigeria. This shows that capital adequacy is a prerequisite for a firm's financial health.

### **2.3.5 Operational efficiency**

According to Abuzayed & Molyneux (2009), Operational Efficiency is the extent to which changes in the cash conversion cycle, operating expenses to sales revenue ratio, operating cash flow, total asset turnover, total debt to total assets ratio, firm size, and operating risk impact the future performance of the firm. The term 'efficiency' is the product of firm-specific factors such as management skills, innovation, cost control, and market share as determinants of current firm performance and its stability. Amarjit et.al, (2014), found a positive impact of operational efficiency on the future performance of Indian manufacturing firms.

### **2.3.6 Size of a Firm**

Firm size is the speed and extent of growth that is ideal for a specific business and it's indicated by the management group or the amount of assets a firm possesses compared to others in the same industry (Kigen, 2014). Larger firms are said to be able to produce goods more cheaply compared to small firms. This is because the former have achieved more learning, greater cumulative experience and they are able to spread their fixed costs over a greater amount of production. A study by Omondi and Muturi (2013), suggest that firms should expand in a controlled way with the aim of achieving an optimum size so as to enjoy economies of scale which can ultimately

result in higher level of profitability. An oligopoly model by Reinhard (1983) suggests that size is positively related to a firm's ability to produce technologically complicated products which in turn leads to concentration. Such firms have few competitors and are therefore, more profitable. Thus, larger firms have access to the most profitable market segments.

## **2.4 Empirical Review**

The empirical review will discuss the studies in the recent past both internationally and locally on liquidity, solvency and financial performance.

### **2.4.1 International Evidence**

Russell, Langemeier and Briggeman (2013), aimed at developing and utilizing a conceptual framework to examine the impact of liquidity and solvency on cost efficiency for a sample of Kansas farms. A standard cost-efficiency model was modified to incorporate liquidity and solvency ratios. Tobit regressions were used to determine the impact of farm characteristics on improvements in efficiency. Results confirmed that liquidity and solvency measures have a significant impact on improving cost efficiency. Farms with larger expenditures on purchased inputs relative to capital were less likely to improve efficiency when liquidity and solvency were considered.

Khidmat and Rehman (2014), set out to investigate the impact of liquidity & solvency on profitability of chemical sector of Pakistan. The population was taken from the chemical sector of Pakistan and from 36 companies the researcher selected 10 listed chemical companies of Pakistan. Data was compiled over a period of 9 years from (2001-2009). Findings showed that the solvency ratio has negative and highly significant impact on the ROA and ROE. It means that debt to equity ratio increases

then performance decreases. It is also concluded that liquidity has high positive effect over Return on Assets of sector i.e. if liquidity Rate is increased, ROA will also be increased with greater effect and vice versa. The research concluded that stakeholders are also interested in solvency ratios of companies. Suppliers for example, check the solvency position of the companies before delivering the goods. The investors are also interested in solvency position on how much the company is risky. Liquidity, solvency and profitability are closely related because one increases the other decreases.

Ehiedu (2014), sought to determine the Impact of Liquidity on Profitability of Some Selected Companies, using the Financial Statement Analysis (FSA) Approach. Specifically, whether there is correlation between (current ratio, Acid-test ratio and return on capital employed and profitability; as measured by return on assets (ROA). Quantitative research design was adopted for this study. The population consisted of publicly quoted companies that make up the “Industrial/Domestic products” industry. The overall findings of this study indicated that there was a significant positive correlation between current ratio and profitability, there was no definite significant correlation between Acid-test ratio and profitability and lastly that there was no significant positive correlation between return on capital employed and profitability. The researcher recommends that corporate entities should not pursue extreme liquidity policies at the expense of their profitability.

Pierret (2014), investigated the systemic risk and the solvency-liquidity nexus of banks in Belgium. The researcher highlights the empirical interaction between solvency and liquidity risks of banks that make them particularly vulnerable to an aggregate crisis. Findings showed that banks lose their access to short-term funding when markets expect they will be insolvent in a crisis. Conversely, the expected

amount of capital a bank should raise to remain solvent in a crisis (its capital shortfall) increases when the bank holds more short-term debt (has a larger exposure to funding liquidity risk). This solvency-liquidity nexus is found to be strong under many robustness checks and to contain useful information for forecasting the short-term statements of financial positions of banks. The results suggest that the solvency-liquidity interaction should be accounted for when designing liquidity and capital requirements, in contrast to Basel III regulation where solvency and liquidity risks are treated separately.

Garanina and Olga (2015), studied the influence of the current liquidity ratio and cash conversion cycle on financial performance of Russian companies. Financial performance was measured as the return on net operating assets, RNOA. A regression analysis of 720 Russian companies engaged in various economic activities for the period 2001 to 2012 was performed using Stata version 12.0. The companies in the sample represented the following industries: telecommunications, transport, electric power industry, trade, metallurgy, mechanical engineering, chemical and petrochemical, oil and gas. The authors found an inverse relation between the Russian companies' cash conversion cycle and RNOA. Further research revealed that companies should seek to obtain a zero cash conversion cycle in order to increase their rate of return. The study also indicated a positive relation between companies' current liquidity ratio and RNOA. This meant that companies should augment their current liquidity ratio in order to increase the RNOA, but the ratio should only be augmented to a defined value.



### **2.4.2 Local Evidence**

Nyabwanga (2013), carried out a financial diagnosis of the SMEs financial performance by focusing on their liquidity, solvency and profitability positions using ratio analysis. Data for the study covered the period 2009-2011 and was obtained from the financial statements of three SME which were purposively sampled from the SMEs operating in Kisii Municipality. The findings of the study showed that when liquidity position of the SMEs was on average low; their solvency was as well low and their financial Health was on average not good. Further, the results showed that there is a significant impact of current ratio, quick ratio and Debt to Total Assets ratio on Return on Assets (ROA). The results of the study demonstrate that the liquidity position of the SMEs was well below the acceptable global norm of 2 for current ratio and 1 for quick ratio. Further, the results indicated that the financial health of the SMEs needed to be improved hence the recommendation that SMEs make liquidity, solvency management and financial stability an integral driver of their policy frameworks.

Maaka (2013), sought to establish the relationship between liquidity risk and financial performance of commercial banks in Kenya. Correlation research design was adopted where data was retrieved from the statement of financial positions, statements of comprehensive income and notes of Kenyan Commercial Banks. A sample of 33 Kenyan banks during 2008-2012 was investigated. Multiple regressions was applied to assess the impact of liquidity risk on banks' profitability. The level of customer deposit was found to positively affect the bank's profitability. The findings of the study also showed that profitability of the commercial bank in Kenya is negatively affected due to increase in the liquidity gap and leverage. With a significant liquidity

gap, the banks may have to borrow from the repo market even at a higher rate thereby pushing up the cost of banks.

Obudho (2014), endeavored to ascertain the relationship between financial risk (capital management risk, financial risk, solvency risk, liquidity risk) and financial performance of insurance companies in Kenya. Secondary Data was collected from Insurance Companies financial reports. Multiple regression and correlation analysis were used in data analysis. The study established that solvency risk was negatively affecting the financial performance of insurance companies in Kenya. The study also found that liquidity risk negatively affected the financial performance of insurance companies in Kenya. The study concluded that capital management risk negatively affect the financial performance of insurance companies in Kenya. Size of the insurance companies was found to positively influence the financial performance of insurance companies in Kenya. From the finding the study recommends that there is need for the management of insurance companies in Kenya to manage their liquidity risk and solvency risk.

Mwangi (2014), analyzed the effects of liquidity and financial performance of Deposit taking microfinance institutions in Kenya for the period 2009 to 2013. Data was extracted from the published institution's annual audit reports, Association of Micro Finance Institutions Reports (AMFI) and CBK's banks supervision annual reports for the five years under examination. The study used inferential statistics to explain the main features of a collection of data in quantitative terms while correlation and linear regression analysis were used for analyzing the data. Financial performance was measured using return on assets while liquidity of DTMFIs was measured by cash and cash equivalents divided by total average assets. The results revealed that there is a positive relationship between liquidity and financial performance. The study

concluded that efforts to stimulate the MFIs' liquidity would see the micro financial sector realize increased financial performance which would result to increased efficiency in the sector's operations.

Banafa et.al, (2015), sought to establish the effects of liquidity on non-financial performance of listed non-financial firms in Kenya. The study used causal research design and the target population constituted 42 listed non - financial firms at the NSE under different categories. The researchers used secondary panel data contained in the annual reports and statements of financial positions of listed non-financial companies. The results were presented using descriptive statistics and inferential analysis. The results of statistical tests shows that liquidity, has positive effect on corporate performance (ROA). The study recommends that financial managers must decide both how much liquidity to hold and the way in which they hold this liquidity.

## **2.5 Summary of Literature Review**

A business operation must have achievable targets depending on its assets. To achieve a company target like maximizing shareholders wealth, management must take risks into consideration. From the literature review, Among the financial risks faced by a firm are liquidity risk, solvency risk and profitability risks, but those organizations that drive in the right risk management strategies into business planning and performance management are more likely to achieve their strategic and operational objectives. (Khidmat & Rehman, 2014).

Liquidity might expose the firm into financial losses when the firm fails to maintain a proper match between assets and liabilities. The Liability Management theory postulates that there is no need to follow old liquidity norms like maintaining liquid assets, liquid investments among others because firms can satisfy liquidity needs by

borrowing in the money in capital markets. However, excessive use of purchased funds in the liability structure can result in a liquidity crisis if investors lose confidence in the institution and refuse to roll over such funds. It is therefore important for firms to implement proper financial management practices by investing in financial risk management.

Solvency can affect performance of a firm. Solvency indicates a company's current and long-term financial health and stability and companies should avoid solvency risk given that stakeholders are interested in solvency ratios of companies. According to Khidmat and Rehman (2014), suppliers check the solvency position of the companies before delivering the goods. The investors are also interested in solvency position on how much the company is risky so that they can make good investment decisions.

Empirical review also reveal that liquidity, solvency and profitability are closely related because one increases the other decrease. Results of a study by Langemeier and Briggeman (2013), confirmed that liquidity and solvency measures have a significant impact on improving cost efficiency. Pierret (2014), suggested that the solvency-liquidity interaction should be accounted for when designing liquidity and capital requirements. Financial managers therefore must decide both how much liquidity and solvency levels to hold in order to reduce financial risks and increase the financial performance of their firms.

## **CHAPTER THREE**

### **RESEARCH METHODOLOGY**

#### **3.1 Introduction**

This chapter presents the approaches that were undertaken in conducting the study. This chapter specifically explained the research design, the population of interest, the data collection method used, the techniques of analysis used, analytical model and the tests of significance.

#### **3.2 Research Design**

This study applied a descriptive research design. Descriptive research design is a systematic, empirical inquiry into which the researcher does not have direct control of independent variables because they are reflecting the state of happenings (Mugenda and Mugenda 2003). Descriptive research is advantageous as it helps describe the characteristics of the variables being studied and can incorporate multiple variables for analysis, unlike other methods that require only one variable (Cooper & Schindler, 2003). This design is helpful in presenting facts about the nature and status of the situation as it exist at the time of study. The descriptive research design was appropriate for the study since it enables collection of information with minimum manipulation of variables.

#### **3.3 Population**

A population is the elements from which a sample is usually selected (Thompson, 2008). In the context of this study the target population can be defined as the totality of firms listed at the Nairobi Securities Exchange of which the statistical attributes will be estimated. The target population were the 67 firms listed as at 31<sup>st</sup> December, 2014 as shown in Appendix 1.

### **3.4 Data Collection**

This study collected data from secondary sources, well-known as relevant existing information in order to achieve the research objective. According to Mugenda and Mugenda, 2003, secondary data is information that has previously been collected and it can be obtained from books, journals and electronic materials. The study covered a five year period from 2009-2013 based on the availability and accessibility of data. Secondary data was collected from the published annual reports of the listed firms, for example the statements of financial position, statements of comprehensive income, statements of changes in equity among others to help evaluate the impact of liquidity and solvency on financial performance of firms listed at the NSE.

### **3.5 Data Analysis**

The study used a multiple regression technique in analyzing the effect of liquidity, solvency and other selected control variables on the financial performance of firms listed at the Nairobi Securities Exchange. Data obtained from secondary data sources was analyzed using analyzing software such as, Statistical Package for Social Sciences (SPSS) and Microsoft Excel version 2010. The results obtained from the model were presented in tables and graphs to aid in interpretation. The inferential statistics was drawn in order to determine the nature and significance of relationship between the changes in the response variable and changes in the predictor variables. Return on Assets (ROA) was used as proxy for the firm's financial performance and it was the dependent variable whereas independent variables comprised of solvency ratio, liquidity ratio, financial leverage, Operational efficiency, Capital adequacy, and Size of the firm.

### 3.5.1 Analytical Model

The regression model that was used in this study comprised of six independent variables and one dependent variable. Financial performance was the dependent variable using ROA and the independent variables were: Solvency, Liquidity, financial leverage, Operational efficiency, Capital adequacy, and Size of the firm

It was as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon$$

Where:

$Y$  = Financial performance is determined using Return on Asset (ROA). ROA is calculated by dividing firm's profit for the year by its total assets.

$X_1$  = Solvency is measured by the solvency ratio, calculated as shareholders' funds to total liabilities

$X_2$  = Liquidity is measured by liquidity ratio calculated as net liquid assets / net liquid liabilities.

$X_3$  = Financial leverage will be calculated using the total debt to equity ratio.

$X_4$  = Capital adequacy which is determined by dividing capital expense by total assets.

$X_5$  = Operational efficiency, obtained by dividing total income by total assets

$X_6$  = Size of the firm is measured by the log of total assets of each firm

$\alpha$  = Regression constant

$\varepsilon$  = Error term normally distributed about the mean of zero.

$\beta_1 \beta_2 \dots \beta_n$  will be the coefficients of variation

### **3.5.2 Test of Significance**

The test of significance was performed at 95% level of confidence using Analysis of Variance (ANOVA) and the F- test were used to determine the significance of the regression. Correlation analysis was carried out to find the direction of the relationship between ROA and the independent variables (Solvency, Liquidity, financial leverage, Operational efficiency, Capital adequacy, and Size of the firm).The coefficient of determination,  $R^2$ , was used to determine how much variation in dependent variable is explained by independent variables.



## CHAPTER FOUR

### DATA ANALYSIS, RESULTS AND DISCUSSION

#### 4.1 Introduction

This chapter discusses the interpretation and presentation of the findings obtained from the field. The study targeted 67 firms listed Nairobi Securities Exchange as at 31<sup>st</sup> December, 2014. The study used linear regression models, descriptive statistics and correlation analysis to discuss the findings of the study.

#### 4.2 Response Rate

The researcher studied all the 67 firms listed NSE. However, data was obtained from only 42 firms listed firms at the NSE making a response rate of 62.68% which is good for analytical inference (Mugenda and Mugenda 2003).

**Table 4.1: Response Rate**

<b>Response Rate</b>	<b>Frequency</b>	<b>Percentage</b>
Response	42	62.68%
Unresponse	25	37.32%
Total	67	100.00%

**Source: Resource findings**

#### 4.3 Data Analysis and Findings

Descriptive statistics, inferential analysis, graphical techniques were used to analyze the data and the findings were presented in tables and graphical form. Descriptive statistics analyzed the mean, minimum, maximum and the standard deviation of the variables while inferential statistics looked at the regression analysis, model summary and the analysis of variance. Correlation analysis was also used to assess the strength of the relationship between the dependent and each explanatory variable.

## 4.4 Descriptive Statistics

The descriptive statistics and the distribution of the variables were presented in table 4.2 below.

**Table 4.2: Descriptive Statistics**

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
ROA	210	-.024	1.230	.13524	.152172
LIQUIDITY(CURRENT RATIO)	210	.320	7.007	1.78322	.982795
SOLVENCY (EQUITY/TOTAL LIABILITIES)	210	.003	.930	.20911	.097879
FINANCIAL LEVERAGE(total debt/total equity)	210	.000	6.704	1.47878	1.365484
CAPITAL ADEQUACY	210	.000	.182	.00819	.020707
SIZE (LOG OF TOTAL ASSETS)	210	7.838	11.343	9.75773	.820633
Valid N (listwise)	210				

**Source: Research Findings**

Table 4.2 presents the mean value, minimum, maximum and the standard deviation of Return on Assets, solvency, liquidity, financial leverage, capital adequacy and size. On the average return on asset (ROA) had a mean of .13524 and a standard deviation of .152172 with maximum and minimum values of 1.230 and -0.024 respectively. The ratio of current assets to current liabilities had a mean of 1.78322 with a standard deviation of .982795. This implied that every unit of current asset invested is used to finance 1.78322 units of current liability. Shareholders' funds to total liabilities recorded a mean of 1.78322 with standard deviation of 0.982798. Financial leverage had a mean of 1.47878 with a standard deviation of 1.365484. Capital adequacy mean was .00819 with a standard deviation of .020707.

## 4.5 Inferential Statistics

The inferential statistics involved the use of multiple linear regression analysis to determine the significance of the coefficients of the explanatory variables in

explaining the variation in dependent variables. Model summary was used to determine the proportion of the dependent variable explained by the explanatory variables while analysis of variance was used to determine the fitness of the model used in the analysis. Correlation analysis established the direction of the relationship between the dependent and independent variables.

#### **4.5.1 Correlation Analysis**

Correlation analysis shows the direction of the relationships between the variables used in the model. Specifically, the Pearson product-moment correlation coefficient is a measure of the strength of a linear association between two variables and is denoted by  $R$ . The Pearson correlation coefficient,  $R$ , can take a range of values from +1 to -1. A value of 0 indicates that there is no association between the two variables. A value greater than 0 indicates a positive association, that is, as the value of one variable increases so does the value of the other variable. A value less than 0 indicates a negative association, that is, as the value of one variable increases the value of the other variable decreases. Table 4.3 below gives a summary of the correlation between the dependent variables and the explanatory variables. Liquidity shows a weak and positive correlation ( $R= 0.018$ ) with financial performance of firms listed at NSE. Solvency has a weak negative association with the ROA of the firm ( $R = -0.075$ ). Financial leverage has a weak and negative relationship with ROA of firms listed at NSE. The relationship between capital adequacy and ROA is weak but positive ( $R=0.136$ ). Size of the firms show weak and negative relationship with ROA ( $R=-0.160$ ).

**Table 4.3: Correlation Analysis**

Correlations

		ROA	LIQUIDITY	SOLVENCY	FINANCIAL LEVERAGE	CAPITAL ADEQUACY	SIZE
ROA	Pearson Correlation	1	.018	-.075	-.067	.136*	-.160*
	Sig. (2-tailed)		.792	.277	.335	.049	.020
	N	210	210	210	210	210	210
LIQUIDITY(CURRENT RATIO)	Pearson Correlation	.018	1	-.111	-.061	.026	.125
	Sig. (2-tailed)	.792		.110	.378	.711	.071
	N	210	210	210	210	210	210
SOLVENCY (EQUITY/TOTAL LIABILITIES)	Pearson Correlation	-.075	-.111	1	-.029	-.002	.006
	Sig. (2-tailed)	.277	.110		.680	.973	.936
	N	210	210	210	210	210	210
FINANCIAL LEVERAGE(total debt/total equity)	Pearson Correlation	-.067	-.061	-.029	1	.019	-.264**
	Sig. (2-tailed)	.335	.378	.680		.784	.000
	N	210	210	210	210	210	210
CAPITAL ADEQUACY	Pearson Correlation	.136*	.026	-.002	.019	1	-.200**
	Sig. (2-tailed)	.049	.711	.973	.784		.004
	N	210	210	210	210	210	210
SIZE (LOG OF TOTAL ASSETS)	Pearson Correlation	-.160*	.125	.006	-.264**	-.200**	1
	Sig. (2-tailed)	.020	.071	.936	.000	.004	
	N	210	210	210	210	210	210

\*. Correlation is significant at the 0.05 level (2-tailed).

\*\*. Correlation is significant at the 0.01 level (2-tailed).

Figure 4.1 below shows how Liquidity and Solvency Relate with financial performance (ROA) of firms listed at the NSE

**Figure 4.1 Relationship between ROA, Liquidity and Solvency (2009-2013)**

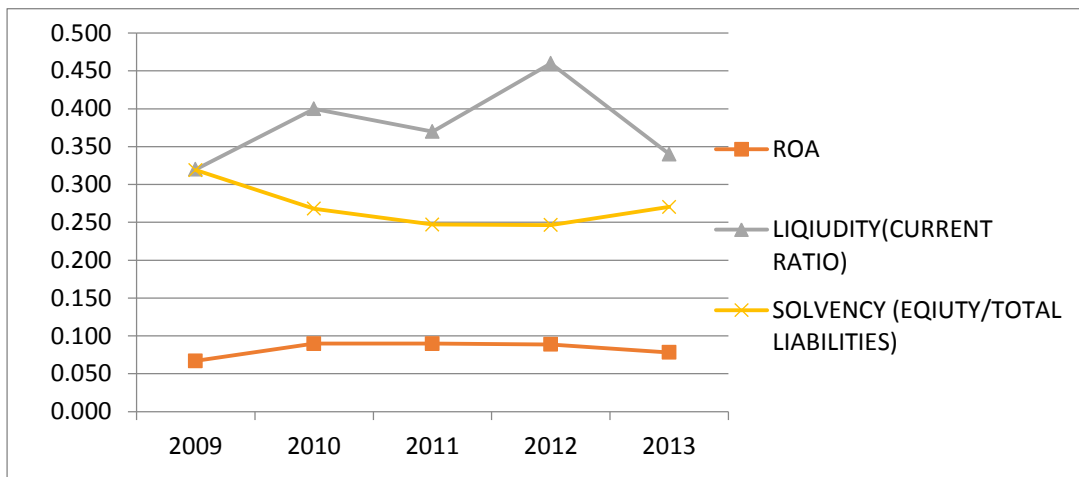


Figure 4.1 above shows that ROA steadily increased from 2009 to 2010 and declined from 2010 to 2011. ROA also increase from 2011 to 2012 and eventually decreased in 2013. Liquidity of the firms listed at NSE showed a slight decline from 2009 and 2011 and stabilized between 2011 and 2013. Solvency ratio recorded a constant value less than 0.1000 as shown by the graph above.

## 4.5.2 Regression Analysis

Regression analysis looked at the model summary, analysis of variance and regression coefficients. The estimated model as explained in chapter three is given by:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \varepsilon$$

### 4.5.2.1 Model Summary

Determination coefficient ( $R^2$ ) was carried out to determine the proportion of the change in dependent variable that is attributed to the changes in the explanatory variables.

**Table 4.4 Model Summary****Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.458 <sup>a</sup>	.210	.186	.138032

a. Predictors: (Constant), SIZE (LOG OF TOTAL ASSETS), SOLVENCY (EQUITY/TOTAL LIABILITIES), OPERATIONAL EFFICIENCY, LIQUIDITY(CURRENT RATIO), CAPITAL ADEQUACY, FINANCIAL LEVERAGE(total debt/total equity)

In table 4.4, the study established an  $R^2$  of 0.210 which implies that 21.0% of the changes in financial performance (ROA) of the firms listed at NSE is attributed to the changes in explanatory variables (Size, solvency operational efficiency, liquidity capital adequacy and financial leverage

#### 4.5.2.2 Analysis of Variance

The study used ANOVA statistics to establish the significance of the relationship between value of the ROA of the firms listed at NSE and the explanatory variables. The regression model is significant given the level of significance 0.000 which is below 0.05; therefore the model is declared fit for estimation.

**Table 4.5 Analysis of Variance****ANOVA<sup>a</sup>**

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	.994	6	.166	8.693	.000 <sup>b</sup>
Residual	3.734	196	.019		
Total	4.728	202			

a. Dependent Variable: ROA

b. Predictors: (Constant), SIZE (LOG OF TOTAL ASSETS), SOLVENCY (EQUITY/TOTAL LIABILITIES), OPERATIONAL EFFICIENCY, LIQUIDITY(CURRENT RATIO), CAPITAL ADEQUACY, FINANCIAL LEVERAGE(total debt/total equity)

### 4.5.2.3 Model Coefficients

Table 4.6 shows the regression coefficients of independent variables that explains the changes in ROA.

**Table 4.3: Regression Coefficients**

Model	Coefficients <sup>a</sup>				
	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	.379	.129		2.943	.004
LIQUIDITY(CURRENT RATIO)	.005	.010	.034	.530	.597
SOLVENCY	-.083	.101	-.053	-.826	.410
FINANCIAL LEVERAGE	-.009	.008	-.078	-1.168	.244
CAPITAL ADEQUACY	.502	.474	.069	1.059	.291
OPERATIONAL EFFICIENCY	.057	.009	.396	6.163	.000
SIZE (LOG OF TOTAL ASSETS)	-.027	.013	-.147	-2.161	.032

a. Dependent Variable: ROA

## 4.6 Interpretation of the Findings

Other factors held constant, ROA for the firms on the average was 0.379 units between 2009 and 2013. The findings show that liquidity positively impacts on the ROA of the firms listed at NSE. The effect of liquidity on ROA is not statistically significant at 5% level of significance ( $t=0.530$ ,  $p=0.597$ ,  $p>0.05$ ). This illustrates that one unit increase in liquidity will contribute to 0.034 unit increase in ROA of the firms listed at NSE. Solvency negatively affects ROA of firms listed at NSE and one unit increase in the ratio of equity to liability will lead to 0.053 unit decrease in financial performance of firms listed at NSE. Financial leverage negatively influence

ROA and a unit increase in financial leverage will lead to 0.078 unit decrease in ROA. However, financial leverage is not statistically significant in determining the financial performance of firms listed at NSE at 5% level of significance ( $t=-1.168$ ,  $p=0.244$ ,  $p>0.05$ ). Capital adequacy positively affects ROA of the firms listed at NSE though the effect is not statistically significant at 5% level ( $t=1.059$ ,  $p=.391$ ,  $p>0.05$ ). Operational efficiency positively affects ROA and the effect is statistically significant at 5% level of significance ( $t=6.163$ ,  $p=0.000$ ,  $p<0.05$ ). This illustrates that one unit increase in operational efficiency will contribute to 0.396 unit increase in firm's financial performance. Size of the firms listed at NSE negatively impacts on ROA and the effect is statistically significant at 5% level of significance ( $t=-2.161$ ,  $p=0.032$ ,  $p<0.05$ ). Therefore one unit increase firm's total assets will lead to 0.147 unit decrease in ROA of the firms listed at NSE.



## CHAPTER FIVE

### SUMMARY, CONCLUSIONS AND RECOMMENDATION

#### 5.1 Introduction

This chapter presents the summary of finds, conclusion, recommendations and suggestions for further research derived from the findings. The chapter also presents the limitations that were encountered with suggestions for further research.

#### 5.2 Summary of the Findings

Statistical analysis in chapter four above provided various results which can be summarized in terms of descriptive statistics and inferential statistics. Return on asset (ROA) had a mean of .13524 and a standard deviation of .152172 with maximum and minimum values of 1.230 and -0.024 respectively. The ratio of current assets to current liabilities had a mean of 1.78322 with standard deviation of .982795. Shareholders' funds to total liabilities recorded a mean of 1.78322 with standard deviation of 0.982798. Financial leverage had a mean of 1.47878 with a standard deviation of 1.365484. Capital adequacy mean was .00819 with a standard deviation of .020707. Correlation analysis showed that the relationship between Liquidity and ROA is weak but positive ( $R= 0.018$ ). Solvency has a weak negative association with the ROA of the firm ( $R = -0.075$ ). Financial leverage has a weak and negative relationship with ROA of firms listed at NSE. The relationship between capital adequacy and ROA was found to be weak but positive ( $R=0.136$ ). Size of the firms showed weak and negative relationship with ROA ( $R=-0.160$ ). The study established  $R^2$  of 0.210 which implied that 21.0% of the changes in financial performance (ROA) of the firms listed at NSE was attributed to the changes in explanatory variables considered in the model. The findings showed that liquidity positively impacts on the ROA of the firms listed at NSE. The effect of liquidity on ROA is not statistically

significant at 5% level of significance. Solvency negatively affects ROA of firms listed at NSE. Financial leverage was found to negatively influence ROA though the effect is not statistically significant. Capital adequacy positively affects ROA of the firms listed at NSE though the effect is not statistically significant at 5% level. Operational efficiency positively affects ROA and the effect is statistically significant at 5% level of significance. Size of the firms listed at NSE negatively impacts on ROA and the effect is statistically significant at 5% level of significance.

### **5.3 Conclusions**

The main objective of the study was to investigate the impact of liquidity and solvency on financial performance of firms listed at the Nairobi Securities Exchange. From regression analysis on chapter four, it is evident that while liquidity positively impacts ROA, solvency negatively impacts ROA or the financial performance of the firms listed at NSE. This implies that increase in liquidity and decrease in solvency will lead to improvement in the financial performance of the firms listed at NSE. However, the effect of liquidity and solvency is not significant contributor of the ROA of firms listed at NSE. We can also conclude that operational efficiency and size of the firms are significant determinant of the financial performance of firms listed at NSE.

### **5.4 Policy Recommendations**

Management of firms should to formulate strategies to be adopted in order to mitigate against liquidity risks and solvency risks for a better financial performance. The findings show that increased liquidity facilitates favorable financial performance of these institutions.

Potential investors should monitor the liquidity and solvency levels of firms they intend to invest in, so as to check whether they are questionable or favorable. This will help these investors in making wise investment decisions. Control variables included will also shed light on other various factors besides liquidity and solvency that could affect the performance of the listed firms. This will benefit investors to take advantage on the investment opportunities available when these variables vary.

CMA as the regulator of NSE should set minimum levels of liquidity and solvency that the firms listed should maintain to ensure their impact on the finance performance of firms are positive. The study findings offers useful inputs to advise the review of the legal framework and influence effective formulation of regulatory policies.

### **5.5 Limitations of the Study**

Time was a major challenge the researcher faced in the course of doing this study. Time wasn't sufficient for the student to read materials on the topic, collect all the data from all the 67 firms within the stipulated deadline. Future scholars are advised to allocate more time to the project work and manage this time efficiently.

The study used secondary data from annual reports of firms listed at the NSE. Secondary data involves past information which may not be a true reflection of the current needs of the study. This data can also be general and vague and may not really help with decision making, the information and data may not be accurate. This might have exposed that study to bias and assumptions and impacted negatively on the study findings.

Another limitation of this study was that data collection was limited to a five year period of study. This period is quite short and thus may not be sufficient to give a

comprehensive analysis in relation to the effect of liquidity and solvency on the financial performance of the firms listed at the NSE.

Cost constraint is another challenge faced by the researcher. The cost of doing the entire research study involved the internet cost, transport cost to school, transport fees to the various firms under study in search of data, printing and binding cost. Future researchers should set aside some money in preparation to conduct empirical studies.

### **5.6 Suggestions for Further Research**

Upcoming researchers might consider investigating the effect of solvency and liquidity on financial performance of similar of firms in other sectors for the banking and agriculture sector to test whether these findings will hold. The findings obtained can then be compared to find out whether there are similarities or differences

This study researched on the effect of only six variables namely: Solvency, Liquidity, financial leverage, Operational efficiency, Capital adequacy, and Size of the firm. These were only seen to affect ROA up to only 21%. This means there are other firm specific or internal factors (e.g. leverage, risk management, expenses management among others.), industry related (e.g. industry concentration and the ownership status of the firms) and macro-economic variables (e.g. inflation, GDP, currency exchange rate, interest rates, legal and regulatory environment) left out that largely impacts on ROA. Future studies should include these others variables that were left out to help managers identify them in order to keep the financial performance of their firms high

Future researchers interested in studying the firms listed at the NSE are advised to ensure their study cover a longer period of time. This study used approximately five years, a period of study that may not quite be adequate to make undisputable conclusions.

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## **APPENDICES**

### **APPENDIX I: LIST OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE AS AT DECEMBER 2014**

#### **AUTOMOBILES AND ACCESSORIES**

1. Car and General (K) Ltd
2. Sameer Africa Ltd
3. Marshalls (E.A.) Ltd

#### **BANKING**

4. Barclays Bank Ltd
5. CFC Stanbic Holdings Ltd
6. I&M Holdings Ltd
7. Diamond Trust Bank Kenya Ltd
8. Housing Finance Co Ltd
9. Kenya Commercial Bank Ltd
10. National Bank of Kenya Ltd
11. NIC Bank Ltd
12. Standard Chartered Bank Ltd
13. Equity Bank Ltd
14. The Co-operative Bank of Kenya Ltd

#### **AGRICULTURAL**

15. Eaagads Ltd
16. Kapchorua Tea Co. Ltd
17. Kakuzi
18. Limuru Tea Co. Ltd
19. Rea Vipingo Plantations Ltd
20. Sasini Ltd
21. Williamson Tea Kenya Ltd

#### **COMMERCIAL AND SERVICES**

22. Express Ltd
23. Kenya Airways Ltd
24. Nation Media Group
25. Standard Group Ltd
26. TPS Eastern Africa (Serena) Ltd



- 27. Scangroup Ltd
- 28. Uchumi Supermarket Ltd
- 29. Hutchings Biemer Ltd
- 30. Longhorn Kenya Ltd
- 31. Atlas Development and Support Services

**CONSTRUCTION AND ALLIED**

- 32. Athi River Mining Cement Limited
- 33. Bamburi Cement Ltd
- 34. Crown Berger Ltd
- 35. E.A. Cables Ltd
- 36. E.A. Portland Cement Ltd

**ENERGY AND PETROLEUM**

- 37. KenolKobil Ltd
- 38. Total Kenya Ltd
- 39. KenGen Ltd
- 40. Kenya Power & Lighting Co Ltd
- 41. Umeme Ltd

**INSURANCE**

- 42. Jubilee Holdings Ltd
- 43. Pan Africa Insurance Holdings Ltd Ord 5.00
- 44. Kenya Re-Insurance Corporation Ltd
- 45. Liberty Kenya Holdings Ltd
- 46. British-American Investments Company ( Kenya) Ltd
- 47. CIC Insurance Group Ltd

**INVESTMENT**

- 48. Olympia Capital Holdings ltd
- 49. Centum Investment Co Ltd
- 50. Trans-Century Ltd

**INVESTMENT SERVICES**

- 51. Nairobi Securities exchange

**GROWTH ENTERPRISE MARKET SEGMENT**

- 52. Atlas Development & Support Services
- 53. Home Afrika
- 54. Flame Tree Group Holdings Ltd

55. Kurwitu Ventures

**FIXED INCOME SECURITY MARKET SEGMENT**

56. Kenya Power & Lighting Ltd 4% Pref 20.00

57. Kenya Power & Lighting Ltd 7% Pref 20.00

**MANUFACTURING AND ALLIED**

58. A Baumann and Company

59. BOC Kenya

60. British American Tobacco Limited

61. Carbacid Investments Limited

62. East African Breweries

63. Eveready East Africa

64. Kenya Orchards Limited

65. Mumias Sugar Company Limited

66. Unga Group

**TELECOMMUNICATION AND TECHNOLOGY**

67. Safaricom

Source: <https://www.nse.co.ke/listed-companies>

## APPENDIX II: DATA OF THE FIRMS STUDIED

YEARS	Name of the Company	ROA	LIQUIDITY	SOLVENCY	FINANCIAL LEVERAGE	CAPITAL ADEQUACY	OPERATIONAL EFFICIENCY	SIZE
2009	Equity Bank	0.067	0.320	0.319	3.130	0.002	0.0855	7.985
2010	Equity Bank	0.090	0.400	0.268	3.720	0.001	0.0710	8.127
2011	Equity Bank	0.090	0.370	0.247	3.730	0.009	0.0524	8.248
2012	Equity Bank	0.089	0.460	0.246	4.060	0.008	0.1269	8.334
2013	Equity Bank	0.078	0.340	0.270	3.690	0.009	0.1507	8.377
2009	KCB Bank	0.021	1.387	0.173	5.620	0.009	0.1491	8.348
2010	KCB Bank	0.037	2.126	0.183	5.450	0.010	0.1209	8.400
2011	KCB Bank	0.044	2.834	0.191	5.230	0.010	0.1602	8.519
2012	KCB Bank	0.037	2.264	0.215	4.660	0.010	0.0454	8.484
2013	KCB Bank	0.039	1.046	0.237	4.230	0.009	0.0398	8.509
2009	Athi River Mining	0.296	1.200	0.161	0.478	0.006	0.1378	10.084
2010	Athi River Mining	0.028	0.819	0.296	0.434	0.007	0.1111	10.219
2011	Athi River Mining	0.007	3.018	0.233	0.409	0.006	0.0782	10.312
2012	Athi River Mining	0.041	1.044	0.237	0.492	0.003	0.4230	10.431
2013	Athi River Mining	0.074	1.119	0.224	0.474	0.004	0.6204	10.497
2009	Access Kenya	0.139	1.380	0.004	2.731	0.057	0.2481	9.248
2010	Access Kenya	-0.005	1.319	0.272	4.622	0.033	0.2380	9.208
2011	Access Kenya	0.068	1.670	0.293	0.175	0.015	0.2380	9.383
2012	Access Kenya	0.063	1.345	0.259	0.183	0.017	0.8389	9.355
2013	Access Kenya	0.076	1.230	0.226	5.953	0.012	0.2032	9.398
2009	Bamburi Cement	0.340	2.199	0.040	0.358	0.002	0.2627	10.507
2010	Bamburi Cement	0.236	1.712	0.064	0.220	0.003	0.1734	10.523
2011	Bamburi Cement	0.254	2.939	0.046	0.281	0.001	0.2990	10.525
2012	Bamburi Cement	0.214	1.808	0.086	0.205	0.001	0.8711	10.634
2013	Bamburi Cement	0.128	1.119	0.172	0.295	0.002	0.4847	10.637
2009	BOC Kenya Ltd	0.113	2.588	0.264	0.214	0.001	0.2149	9.299
2010	BOC Kenya Ltd	0.058	1.102	0.236	0.619	0.001	0.3209	9.305
2011	BOC Kenya Ltd	0.106	2.648	0.253	0.432	0.001	0.4208	9.259
2012	BOC Kenya Ltd	0.158	2.976	0.248	0.307	0.002	0.6507	9.299
2013	BOC Kenya Ltd	0.155	2.688	0.259	0.360	0.003	0.81635	9.274
2009	BAT	0.205	1.127	0.187	2.316	0.005	0.2208	10.023
2010	BAT	0.258	0.978	0.242	3.514	0.002	0.2345	10.046
2011	BAT	0.403	2.511	0.194	3.561	0.008	0.2032	10.138
2012	BAT	0.346	1.483	0.142	2.982	0.003	3.3433	10.181
2013	BAT	0.360	1.227	0.145	3.584	0.005	3.0428	10.206
2009	Car & General Kenya	0.102	1.317	0.095	0.307	0.001	0.1259	9.507
2010	Car & General Kenya	0.103	1.359	0.042	2.234	0.001	0.1172	9.588
2011	Car & General Kenya	0.111	1.381	0.103	1.660	0.003	0.5597	9.745
2012	Car & General Kenya	0.064	1.387	0.046	1.417	0.000	1.0011	9.756
2013	Car & General Kenya	0.080	1.344	0.060	1.181	0.000	1.0224	9.826
2009	Carbacid Kenya	0.303	1.129	0.198	1.016	0.038	2.6674	9.139
2010	Carbacid Kenya	0.318	1.808	0.198	1.025	0.001	2.3390	9.180
2011	Carbacid Kenya	0.248	0.977	0.190	1.105	0.003	3.7737	9.241
2012	Carbacid Kenya	0.308	1.483	0.236	0.637	0.002	0.4607	9.304
2013	Carbacid Kenya	0.315	1.102	0.220	0.804	0.008	2.7737	9.335
2009	CMC Holdings	0.067	1.610	0.003	3.034	0.002	0.0945	10.124
2010	CMC Holdings	0.044	1.568	0.018	3.183	0.001	0.1102	10.166
2011	CMC Holdings	0.014	5.520	0.053	2.475	0.002	0.3685	10.164
2012	CMC Holdings	0.016	1.529	0.008	3.077	0.001	0.9054	10.113

2013	CMC Holdings	0.015	1.533	0.015	3.153	0.002	0.2761	10.160
2009	Crown Paints	0.072	1.595	0.233	0.671	0.002	0.0921	9.269
2010	Crown Paints	0.091	2.485	0.256	1.064	0.001	0.0398	9.295
2011	Crown Paints	0.102	2.776	0.286	1.578	0.002	0.0751	9.345
2012	Crown Paints	0.101	1.715	0.284	1.550	0.002	1.9630	9.354
2013	Crown Paints	0.148	2.546	0.285	2.046	0.002	1.7515	9.370
2009	Centrum	0.040	1.568	0.228	1.594	0.000	0.1408	10.197
2010	Centrum	0.169	1.044	0.209	1.397	0.000	0.1210	10.176
2011	Centrum	0.233	1.508	0.198	1.079	0.017	0.0743	9.993
2012	Centrum	0.079	1.808	0.199	2.383	0.001	1.2219	10.197
2013	Centrum	0.160	0.978	0.152	1.853	0.009	0.1650	10.331
2009	Eaagads	0.061	1.229	0.260	1.391	0.003	0.1178	8.415
2010	Eaagads	0.167	1.432	0.131	0.045	0.001	0.1982	9.488
2011	Eaagads	0.033	1.712	0.067	0.675	0.001	0.0771	8.550
2012	Eaagads	0.102	1.598	0.221	0.627	0.006	0.2740	8.758
2013	Eaagads	0.145	1.712	0.140	0.758	0.034	0.1468	8.699
2009	East African Breweries	0.355	2.207	0.266	2.962	0.003	0.2006	10.538
2010	East African Breweries	0.364	2.491	0.248	5.442	0.003	0.3701	10.582
2011	East African Breweries	0.321	3.251	0.249	1.749	0.006	0.3344	10.695
2012	East African Breweries	0.308	1.508	0.262	1.079	0.012	1.7296	10.737
2013	East African Breweries	0.204	1.552	0.261	2.802	0.007	1.0086	10.776
2009	East African Cables	0.173	1.552	0.239	0.804	0.003	0.1864	9.549
2010	East African Cables	0.073	1.598	0.133	3.034	0.001	0.2201	9.655
2011	East African Cables	0.103	4.222	0.267	3.183	0.000	0.2052	9.698
2012	East African Cables	0.151	2.656	0.198	2.475	0.001	0.6883	9.796
2013	East African Cables	0.094	1.875	0.155	3.077	0.001	0.6613	9.834
2009	E. A. Portland Cement	0.092	2.209	0.055	3.153	0.003	0.1245	10.081
2010	E. A. Portland Cement	0.028	1.619	0.064	0.671	0.002	0.0789	10.081
2011	E. A. Portland Cement	0.010	3.422	0.021	0.440	0.001	0.1561	10.131
2012	E. A. Portland Cement	0.063	1.432	0.008	0.143	0.001	0.6114	10.149
2013	E. A. Portland Cement	0.101	1.040	0.096	0.159	0.002		10.194
2009	Eveready East Africa	0.050	1.432	0.127	0.154	0.028	0.6554	8.999
2010	Eveready East Africa	0.015	1.568	0.227	0.718	0.033	0.5632	9.078
2011	Eveready East Africa	0.145	2.485	0.197	0.912	0.001	0.4934	9.007
2012	Eveready East Africa	0.068	3.806	0.149	1.017	0.007	1.1947	9.061
2013	Eveready East Africa	0.053	1.483	0.206	1.012	0.044	1.5184	9.091
2009	Express Kenya	0.020	0.977	0.208	1.477	0.001	0.0914	9.115
2010	Express Kenya	0.011	1.508	0.272	0.400	0.005	0.0235	9.128
2011	Express Kenya	0.166	1.808	0.290	1.693	0.011	0.0895	8.885
2012	Express Kenya	0.017	0.978	0.237	2.331	0.008	0.0462	8.695
2013	Express Kenya	0.003	1.808	0.199	0.793	0.016	1.2134	8.591
2009	HFCK	0.016	2.532	0.250	1.596	0.000	0.1740	10.261
2010	HFCK	0.021	3.568	0.285	0.344	0.000	0.1732	10.467
2011	HFCK	0.021	2.485	0.155	0.519	0.001	0.1899	10.503
2012	HFCK	0.023	3.806	0.232	0.515	0.000	0.1328	10.612
2013	HFCK	0.024	1.453	0.248	0.377	0.001	0.1148	10.676
2009	Kakuzi	0.209	0.560	0.280	0.386	0.040	0.8467	9.458
2010	Kakuzi	0.194	0.665	0.289	0.608	0.155	0.7945	9.508
2011	Kakuzi	0.286	2.370	0.134	1.672	0.182	0.8275	9.582
2012	Kakuzi	0.149	0.642	0.283	0.330	0.075	0.5721	9.553
2013	Kakuzi	0.067	5.568	0.297	1.019	0.134	0.3877	9.608
2009	Kapchorua Tea Company	0.102	1.129	0.233	1.452	0.004	0.7841	9.067

2010	Kapchorua Tea Company	0.171	2.656	0.210	3.546	0.019	1.1511	9.176
2011	Kapchorua Tea Company	0.179	0.819	0.210	3.638	0.031	1.2036	9.196
2012	Kapchorua Tea Company	0.072	2.485	0.211	3.208	0.018	0.7167	9.293
2013	Kapchorua Tea Company	0.122	0.819	0.222	3.080	0.019	0.2761	9.332
2009	KenGen	0.043	1.529	0.284	2.036	0.001	0.0406	11.036
2010	KenGen	0.023	0.870	0.279	1.730	0.001	0.0209	11.178
2011	KenGen	0.024	1.523	0.279	0.730	0.001	0.0734	11.207
2012	KenGen	0.025	4.635	0.277	1.029	0.001	0.0981	11.213
2013	KenGen	0.025	3.806	0.276	1.509	0.001	0.0939	11.273
2009	KenolKobil	0.070	2.571	0.255	0.937	0.004	4.1174	10.469
2010	KenolKobil	0.096	1.387	0.222	0.923	0.003	2.0037	10.483
2011	KenolKobil	0.162	2.026	0.238	0.281	0.003	4.7737	10.663
2012	KenolKobil	0.195	2.834	0.240	0.099	0.000	5.8905	10.514
2013	KenolKobil	0.017	1.264	0.247	0.628	0.002	3.9005	10.615
2009	Kenya Airways	0.074	1.036	0.091	1.007	0.005	0.0774	10.881
2010	Kenya Airways	0.035	1.129	0.106	0.496	0.007	0.0718	10.865
2011	Kenya Airways	0.068	4.107	0.014	0.148	0.008	0.0745	10.896
2012	Kenya Airways	0.027	0.870	0.151	1.448	0.011	1.3934	10.889
2013	Kenya Airways	0.140	1.309	0.233	0.678	0.011	1.3763	10.890
2009	Kenya Orchards	-0.024	1.508	0.198	1.079	0.017	0.1208	7.896
2010	Kenya Orchards	0.007	1.129	0.129	2.546	0.015	0.1050	7.872
2011	Kenya Orchards	0.010	1.598	0.121	6.438	0.028	0.1041	7.847
2012	Kenya Orchards	0.004	2.520	0.228	1.539	0.003	0.1732	7.838
2013	Kenya Orchards	0.035	1.432	0.178	1.954	0.004	0.1899	7.849
2009	KPLC	0.080	2.776	0.257	0.525	0.000	0.0559	10.855
2010	KPLC	0.079	1.432	0.277	0.196	0.000	0.0458	10.930
2011	KPLC	0.074	1.568	0.276	0.114	0.000	0.0677	11.083
2012	KPLC	0.070	1.432	0.275	1.657	0.000	1.2134	11.128
2013	KPLC	0.000	1.102	0.275	0.173	0.000	0.0855	11.187
2009	Limuru Tea	0.670	1.359	0.230	0.034	0.017	3.4152	7.928
2010	Limuru Tea	1.230	1.849	0.204	0.669	0.041	7.1831	8.200
2011	Limuru Tea	0.378	1.529	0.138	0.897	0.022	5.3828	8.282
2012	Limuru Tea	0.767	2.286	0.105	0.897	0.015	0.3625	8.505
2013	Limuru Tea	0.059	2.207	0.283	0.887	0.012	0.2761	8.546
2009	Marshalls East Africa	0.097	1.234	0.226	0.782	0.000	0.1132	9.157
2010	Marshalls East Africa	0.240	1.227	0.265	0.164	0.002	0.1405	9.052
2011	Marshalls East Africa	0.161	1.229	0.232	0.208	0.001	0.0818	9.032
2012	Marshalls East Africa	0.154	0.819	0.273	0.213	0.004	0.4132	8.754
2013	Marshalls East Africa	0.194	1.217	0.160	0.233	0.004	0.2959	8.771
2009	Mumias Sugar	0.084	1.229	0.276	1.440	0.001	0.1602	10.242
2010	Mumias Sugar	0.125	0.819	0.293	1.192	0.000	0.1122	10.257
2011	Mumias Sugar	0.146	2.286	0.290	2.632	0.000	0.0683	10.360
2012	Mumias Sugar	0.077	1.432	0.297	1.954	0.000	0.7169	10.438
2013	Mumias Sugar	0.082	1.044	0.265	1.397	0.000	0.5953	10.471
2009	Nation Media Group	0.244	1.907	0.220	0.243	0.002	0.2713	9.818
2010	Nation Media Group	0.327	2.231	0.221	0.452	0.001	0.2890	9.902
2011	Nation Media Group	0.252	1.655	0.226	0.777	0.001	0.2460	9.945
2012	Nation Media Group	0.398	1.712	0.230	0.622	0.000	1.1564	10.029
2013	Nation Media Group	0.336	1.807	0.300	0.601	0.001	0.2761	10.051
2009	National Bank of Kenya	0.034	1.432	0.279	0.530	0.001	0.0660	10.711
2010	National Bank of Kenya	0.039	1.192	0.263	2.090	0.001	0.0730	10.778
2011	National Bank of Kenya	0.026	2.286	0.256	1.944	0.002	0.0666	10.837

2012	National Bank of Kenya	0.011	0.819	0.263	2.859	0.002	0.0581	10.827
2013	National Bank of Kenya	0.017	0.766	0.261	1.487	0.001	0.0882	10.966
2009	Olympia Capital Holdings	0.049	1.264	0.370	3.581	0.005	0.8000	8.896
2010	Olympia Capital Holdings	0.008	1.102	0.930	1.604	0.001	0.0696	8.989
2011	Olympia Capital Holdings	0.036	1.432	0.078	1.954	0.005	0.1210	9.031
2012	Olympia Capital Holdings	0.023	1.044	0.467	1.397	0.001		9.271
2013	Olympia Capital Holdings	0.004	1.712	0.241	4.458	0.000	0.8167	9.278
2009	REA Vipingo Plantations	0.186	1.670	0.223	0.670	0.024	1.1751	9.151
2010	REA Vipingo Plantations	0.684	1.543	0.237	1.016	0.002	0.8826	9.232
2011	REA Vipingo Plantations	0.212	3.833	0.107	1.709	0.001	0.1496	9.360
2012	REA Vipingo Plantations	0.161	1.580	0.263	1.791	0.001	1.0384	9.376
2013	REA Vipingo Plantations	0.190	1.579	0.071	0.717	0.003	0.9974	9.414
2009	Sameer Africa	0.247	2.123	0.203	1.224	0.004	0.0483	9.478
2010	Sameer Africa	0.460	1.849	0.060	0.426	0.010	0.0263	9.490
2011	Sameer Africa	0.329	5.427	0.139	0.229	0.004	0.5874	9.495
2012	Sameer Africa	0.027	0.977	0.146	0.243	0.005	1.7024	9.531
2013	Sameer Africa	0.047	2.209	0.106	0.251	0.002	0.4797	9.528
2009	Sasini	0.080	2.103	0.216	0.251	0.001	0.5703	9.903
2010	Sasini	0.105	1.966	0.175	0.698	0.004	0.3335	9.957
2011	Sasini	0.141	7.007	0.154	0.964	0.001	0.3337	9.976
2012	Sasini	0.116	2.571	0.223	1.624	0.002	0.3115	9.951
2013	Sasini	0.116	4.216	0.218	1.950	0.001	0.3384	10.007
2009	ScanGroup	0.100	2.231	0.056	0.173	0.003	0.7169	9.595
2010	ScanGroup	0.115	1.508	0.027	1.079	0.005	0.5953	9.904
2011	ScanGroup	0.029	0.978	0.048	1.853	0.002	0.2713	9.929
2012	ScanGroup	0.031	1.619	0.098	1.832	0.003	1.5100	9.937
2013	ScanGroup	0.035	0.978	0.036	1.853	0.001	0.2973	10.036
2009	Standard Chartered Bank	0.048	1.317	0.266	0.738	0.001	0.1026	11.093
2010	Standard Chartered Bank	0.043	2.546	0.261	0.352	0.001	0.0987	11.155
2011	Standard Chartered Bank	0.041	2.485	0.274	0.683	0.000	0.0970	11.215
2012	Standard Chartered Bank	0.049	1.052	0.289	0.273	0.000	0.0992	11.291
2013	Standard Chartered Bank	0.047	0.870	0.283	1.398	0.000	0.0977	11.343
2009	Standard Group	0.273	1.325	0.275	0.241	0.003	0.1872	9.478
2010	Standard Group	0.462	1.432	0.261	1.954	0.014	0.1594	9.519
2011	Standard Group	0.018	4.354	0.254	1.672	0.004	0.1254	9.546
2012	Standard Group	0.018	0.978	0.262	1.853	0.007	1.0335	9.544
2013	Standard Group	0.595	1.425	0.270	2.553	0.002	1.7748	9.585
2009	Total Kenya	0.036	1.387	0.251	0.710	0.000	0.0625	10.499
2010	Total Kenya	0.022	1.529	0.292	0.960	0.002	0.0709	10.483
2011	Total Kenya	0.028	1.317	0.264	0.350	0.001	0.0232	10.547
2012	Total Kenya	0.021	2.546	0.277	0.350	0.001	3.6321	10.518
2013	Total Kenya	0.030	2.485	0.296	0.280	0.000	0.42279	10.614
2009	TPS Serena	0.021	1.052	0.277	0.789	0.001	0.0911	9.845
2010	TPS Serena	0.062	0.870	0.222	0.736	0.005	0.0507	10.076
2011	TPS Serena	0.043	1.244	0.259	0.702	0.001	0.0743	10.118
2012	TPS Serena	0.031	1.102	0.248	0.000	0.002	0.3934	10.130
2013	TPS Serena	0.036	1.152	0.224	0.214	0.000	0.4889	10.216
2009	Unga Group	0.232	2.231	0.114	0.368	0.001	0.0421	9.746
2010	Unga Group	0.351	1.712	0.384	0.437	0.015	0.1185	9.705
2011	Unga Group	0.356	1.264	0.088	0.369	0.004	0.0468	9.757
2012	Unga Group	0.298	1.508	0.139	0.390	0.006	2.4924	9.807
2013	Unga Group	0.358	1.808	0.110	6.704	0.001	1.8948	9.815

<b>2009</b>	<b>Williamson Tea Kenya</b>	0.031	1.568	0.297	2.304	0.002	0.4755	9.593
<b>2010</b>	<b>Williamson Tea Kenya</b>	0.223	1.833	0.299	3.781	0.001	0.7515	9.727
<b>2011</b>	<b>Williamson Tea Kenya</b>	0.166	0.870	0.299	1.667	0.000	1.1928	9.781
<b>2012</b>	<b>Williamson Tea Kenya</b>	0.142	1.264	0.297	0.588	0.001	0.4979	9.860
<b>2013</b>	<b>Williamson Tea Kenya</b>	0.118	0.870	0.296	0.768	0.004	0.8010	9.862