

**THE EFFECT OF LEVERAGE, LIQUIDITY, AND FIRM SIZE ON
FINANCIAL PERFORMANCE OF LISTED NON-FINANCIAL FIRMS IN
KENYA**

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The effect of leverage, liquidity, and firm size on financial Performance of listed non-financial firms in Kenya

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DECLARATION

This thesis is my original work and has not been presented for a degree in any other University.

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DEDICATION

This thesis is dedicated to my wife Fatma Ismail for her love, support and encouragement during the entire duration of the course. Further dedication is to my late parents Mr. and Mrs. Sheikh Ali Banafa for their everlasting love and for teaching me the discipline and value of hard work when I least knew the World. I also salute my children Ali Banafa and Amer Banafa for their moral support. This thesis will be a source of motivation for hard work when they become of age.

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LIST OF ABBREVIATIONS AND ACRONYMS

ADF	Augmented Dickey-Fuller
CMA	Capital Markets Authority
FTSE	Financial Time Stock Exchange
GDP	Gross domestic Product
NASI	Nairobi All Share Index
ROA	Return on Assets
ROE	Return on Equity
RoK	Republic of Kenya

OPERATIONAL DEFINATION OF TERMS

- Capital Structure** refers to the way a corporation finances its assets through some combination of equity, debt, or hybrid securities. A firm's capital structure is then the composition or "structure" of its liabilities (Lopez-Salazar, Soto & Mosqueda, 2012).
- Cash flow holdings** is the ratio of cash and short-term investments to total assets, the assets that held in ready cash (Dittmar, & Mahrt-Smith, 2007, Memba & Nyanumba, 2013).
- Earnings per Share** refers to a company's profit divided by its number of common outstanding shares (Green, Murinde & Suppakitjarak, 2003).
- Equity conversion** is the resulting hybrid transaction enables the borrower to transform loans into shares of stock, or equity (Otieno, 2013).
- Interest payable** is the amount of interest on its debt that a company owes to its lenders and lease providers as of the balance sheet date (Frost, 2010).
- Leverage** The use of various financial instruments or borrowed capital, such as margin, to increase the potential return of an investment (Filbeck & Krueger, 2005).
- Liquidity** is the available cash for the near future, after taking into account the financial obligations corresponding to that period (Muganga, 2010).
- Market capitalization** is the total value of the shares outstanding of a publicly traded company. Market capitalization is one way to measure the size of one company versus another. It is also a measure of what the stock market thinks the value of the company is, taking into account its

future outlook, as the future outlook is built into the price the stock is selling at (Benoit, 2004).

Market price to book ratio measures a company's market price in relation to its book value (Frost, 2010). Net working capital is a measure of a company's operating liquidity expressed as current assets less current liabilities (Falope & Ajilore, 2009).

Operating expense Is an expense incurred in carrying out an organization's day-to-day activities, but not directly associated with production. Operating expenses include such things as payroll, sales commissions, employees' benefits and pension contributions, transportation and travel, amortization and depreciation, rent, repairs, and taxes. These expenses are usually subdivided into selling expenses and administrative and general expenses (Davies, 2009).

ABSTRACT

Capital is the financing for a business and is made up of, primarily, owners' funding and funding from lenders. The combination of the sources of business funding is referred to, as the capital structure of that business. Capital structure is thus the mix of company's long term debt, specific short term debt, common equity and preferred equity; that is, how a firm finances its overall operations and growth using different sources of funding. This is composed of equity (rights issue) and debt financing (credit market through corporate bonds etc). This research sought to investigate the effect of Leverage, Liquidity and Firm Size of non-financial firms listed at Nairobi Stock Exchange during the period 2009-2013. This period covers the post election violence of 2007. The success of financial institutions in Kenya's dynamic business environment depend on their ability to effectively determine the optimum and appropriate capital mix that is necessary to ensure that the shareholders get returns. It is worth noting that financial institutions depend on their ability to identify, assess, monitor and manage risks in a sound and sophisticated way. In order to assess and manage risks, financial firms must have effective ways of determining the appropriate amount of capital that is necessary to absorb unexpected losses arising from their market, credit and operational risk exposures. The sector has recorded double-digit growth in profits for most of the past decade, when the economic growth has averaged at about five per cent. Factors such as amount of debt, the risks associated with indebtedness, interest rates and debt equity combination and the management of accounts receivables and accounts payables could affect the financial performance of firms. The study used panel data over a five year period (2009 to 2013) to examine the effect of Leverage, Liquidity, Firm size, Day's accounts receivables and accounts payables on Returns on Equity and Assets on financial performance of listed non-financial firms. Regression coefficients were interpreted using the E-views software output.

CHAPTER ONE

INTRODUCTION

1.1. Background of Study

The objective of a firm should be directed towards the maximization of the firm's value. The capital structure or financial leverage decision should be examined from the point of its impact on the value of the firm. If the capital structure decision can affect a firm's value, then it would like to have a capital structure, which maximizes its market value (Pandey, 2010). Further research on capital structure by Abor & Biekpe (2007) concluded that Firms use a mix of debt and equity in various proportions in order to maximize the overall market value of the firm.

The Nairobi Securities Exchange formerly Nairobi Stock was constituted as a voluntary association of stock brokers under the society act. In 1990, a trading floor and secretariat was set up at the IPS building, before moving to the Nation Centre Nairobi in 1994. Over the past decade, the securities exchange has witnessed numerous changes, automating its trading in September 2006 and in 2007 making it possible for stockbrokers to trade remotely from their offices, doing away with the need for dealers to be physically present on the trading floor. Trading hours were also increased from two to six. Moving to Westland in the environs of Nairobi symbolically marked the end of an era where the market was owned and run by stockbrokers. Nairobi Securities Exchange together with Uganda securities exchange and Dar-es-laam stock exchange memorandum of understanding lead to formation of east Africa securities exchange in 2006. Automated trading system ATS was introduced in 2006 making significant steps in capital markets in providing liquidity and Investors at the Nairobi Securities Exchange (NSE) are set to trade in stock and index derivatives heralding a new dawn in Kenya's 60-year old bourse.

Nairobi Securities Exchange aims at supporting trading clearing settlement of equities debt derivatives and other associated instruments. It is mandated to list companies on the securities exchange and enables investors to trade in securities of companies thus its charged with the health of Securities Exchange. It's regulated by Capital Markets Authority.

Financial institutions in Kenya have been on record posting billion of shillings in profit and this financial position has been on the rise yet non- financial companies which are listed in Nairobi Stock Exchange have not been performing well and some actually record huge losses this trend unfortunately persists. Business success depends heavily on the ability of financial managers to effectively manage the components of financial structure. Based on the above discussion one can assert that the momentous efforts to revive the ailing and liquidating companies have focused on financial restructuring. However managers and practitioners still lack adequate guidance for attaining optimal financing decisions (Kibet, Tenei & Mutwol,2011) yet many of the problems experienced by the companies put under statutory management were largely attributed to financing (Chebii, Kipchumba & Wasike, 2011). This situation has led to loss of investors' wealth and confidence in the stock market.

Studies on the relationship between various financing decisions and financial performance have produced mixed results hence determination of optimal capital structure is a difficult task that go beyond many theories though many researchers agree that the economic and institutional environment in which the firms operate significantly affect the capital structure of a firm (Owolabi & Inyang, 2013). From companies' annual reports from Nairobi Securities Exchange Handbook,(2014), it is evident that many companies quoted at NSE do not pay dividends consistently, and when they pay, the level of payout is very low contrary to shareholders' expectations. Further with corporate failures witnessed in Kenya like Uchumi Supermarkets and Kenya Cooperative Creameries, with some undergoing through receivership Maina & Sakwa (2010), there was need and motivation to undertake this study.

1.1.1 Global Perspective of Financial Structures and Performance of Listed Non-Financial Firms

Financing structure is critical to the company's performance. The equity financing ratio and operating performance of non - financial sectors listed companies in China has been found to have a significant positive correlation; no significant linear relationship between the endogenous financing ratio and corporate performance; the debt financing ratio and operating performance is negatively correlated (Yan-ru Hui & Liang, 2014). Allen, Chakrabarti and De (2008) assert that while a large number of firms (e.g., in India and Hybrid Sector firms in China) do not use much bank finance, the reason behind their choice is unclear. Is it because these firms are unable to secure bank credit (e.g. credit rationing, low credit quality) even though they prefer bank credit to alternative finance, or does this financing pattern reflect an interior optimal choice rather than a corner solution.

Alternative finance may actually be the preferred form of finance over bank finance because the effective (as opposed to nominal) cost of alternative finance (average over a long period of time) may be lower due to some of its special beneficial features, such as renegotiation flexibility and the advantage of an extended network with the providers of capital. Due to long out dated economic policies, the cost of capital is much higher than in more developed countries and many firms suffer from credit constraints (Terra, 2003). Also, the debt market in Brazil is less mature when contrasted to US or European markets, with less transactions and lower liquidity (Sheng & Saito, 2008). Because emerging economies tend to have higher interest rates when compared to more developed economies (Neumeyer & Perri, 2005), the opportunity cost of holding cash is higher.

The balance sheets of non-financial firms in the US were significantly affected during the crisis of 2007. During this period, the decline in the value of assets eroded borrowers' net worth faster than their gross worth (due to their leverage), which led to a reduction in the value of the collateral and subsequent fall in the amounts able to be borrowed (Brunnermeier, 2009). In Egypt (Ebaid, 2009) asserted that capital structure has little to no impact on a firm's performance while there existed a

negative relation between debt ratio and firm in Nigeria (Muritala, 2012). In Ghana, the components of financial structure are positively and significantly related with firm value but use of long term debt maximizes firm value more than the equity (Antwi, Mills & Zhao, 2012). In Pakistan, financial leverage has a significant negative relationship with firm performance (Khalique, Abdul, Hassan and Alkali 2012). Also, a negative relationship between capital structure and performance of non-financial firms in Pakistan indicates that agency issues may lead the firms to use higher than appropriate levels of debt in their capital structure. This over leveraging may increase the lenders' influence which in turn limits the managers' ability to manage the operations effectively, hence negatively affecting the firm performance (Nadeem & Wang, 2013). In the US, the near-collapse of Bear Stearns and failure of Lehman Brothers are both characterized as liquidity shocks that had a greater impact on financially fragile non-financial firms. The presented findings show that the improvement in demand expectations positively affected the performances of U.S. non-financial firms in the early months of recovery (Chatelain, 2013).

1.1.2 Financial Performance of Listed Non-Financial Firms in Kenya

After a long period of virtual stagnation the Kenyan economy went through a strong phase over the period 2003-2007, as the rate of economic growth accelerated up to 7 per cent. During the same period TFP in manufacturing increased by as much as 20% (World Bank, 2007). Aggregate capital formation increased up to 19.5 per cent, which is high by Kenyan standards, but of course pales in comparison with those of its Asian competitors. And it is a long way away from the long-term target of investments of 30% of GDP.

A study by Kaumbuthu (2011) in Kenya determined the relationship between capital structure and return on equity for industrial and allied sectors in the Nairobi Securities Exchange during the period 2004 to 2008 and found a negative relationship between debt equity ratio and ROE. The study focused on only one sector of the companies listed in Nairobi Securities Exchange and paid attention to only one aspect of financing decisions. Maina and Kodongo (2013) investigated the effect of debt-equity ratio performance of firms listed at the Nairobi Securities

exchange and found a significant negative relationship between capital structure and all measures of performance. Otieno (2013) explored the financial structure of listed financial firms in Kenya based on a sample of 29 non-financial firms listed on the Nairobi Securities Exchange during the period 2004-2012 and revealed that firm specific factors affecting the capital structure of listed firms in Kenya are asset tangibility, firm's profitability, size of the firm, firm's growth opportunities and finally liquidity of a firm's assets while the macroeconomic factors are economic growth and corporate tax rate.

1.2 Statement of the Problem

Shareholders, economies and lenders have invested heavily in the listed firms financially and providing a healthy environment for conducting business. Therefore these stakeholders expect such companies to perform to the expected standards. Some companies have so far performed well while others have suffered declined performance. Some companies have been delisted from the NSE due to financial reasons (Chebii, Kipchumba, & Wasike, 2011).

Studies from developed countries show that non-financial firms are experiencing declining performance and data shows that non-financial firms have been delisted from the Stock exchange in the last decade (Tian & Zeitun, 2007). Documented evidence available from the World Bank (2014) shows that non-financial firms in Kenya are characterized by a decline in financial performance for example, Kenya Airways made a loss of Sh3.4 billion after tax by March 2014, down from Sh7.8 billion it made in 2013 Wahito, (2014). It has further posted 25.7 billion losses for the 2014 financial year Mwanyasi (2015), further statistics from the Capital market Authority (CMA, 2013), reveals that market price of the shares declined in the year 2007 – 2013. Reports from the Republic of Kenya (RoK) reveal that the low financial performance is a major hindrance in the realization of Vision 2030 leading to a lower economic development and loss of jobs in Kenya which is associated with social injustices (RoK, 2014).

A study carried out by Vahid, Mohsen and Mohammadreza (2012) working capital plays a significant role in determining success or failure of firm in business performance due to its effect on firm's profitability as well on liquidity. Working capital directly affects the profitability and is considered one of the most important parts of financial decision making (ul Haq, Sohail,, Zaman, & Alam 2011). The relationship between working capital management and profitability: a case study of cement industry in Pakistan. *Mediterranean Journal of Social Sciences*, 2(2), 365-372.

2011). Kale (2013) observes that failure to put considerations on leverage might lead to low profitability and bankruptcy, failure to invest in high returns project and ultimately decrease in the value of the firm. Further study carried out by (Shinada, 2012) asserts that during a financial crisis, most financial institutions are faced with severe funding difficulties and non-financial firms are immediately forced to strengthen their funding strategies against financial constraints. This study sought to fill the existing research gap.

1.3 Research Objectives

The main objective of the study was to establish the effect of Leverage, Liquidity and firm Size on financial performance of listed non-financial firms in Kenya.

1.3.1 Specific Objectives

The specific objectives were:

- i. To find out the effect of Leverage on financial performance of listed non-financial firms in Kenya
- ii. To assess the extent to which liquidity affects financial performance of listed non-financial firms in Kenya
- iii. To explore the effect of firm size on financial performance of listed non-financial firms in Kenya.
- iv. To establish how days in accounts receivables affect financial performance of listed non-financial firms in Kenya.

- v. To establish the effect of days in accounts payables affect financial performance of the firm.
- vi. To establish the joint effect of Leverage, Liquidity, firm size, days in accounts receivables and days in accounts payables on financial performance.

1.4 Research Hypotheses

The research hypotheses were;

- i. H₀₁: Leverage does not affect financial performance of listed non-financial firms in Kenya.
- ii. H₀₂: Liquidity does not affect financial performance of listed non-financial firms in Kenya
- iii. H₀₃: Firm size does not affect financial performance of listed non-financial firms in Kenya.
- iv. H₀₄: Days in accounts receivables do not affect financial performance of listed non-financial firms in Kenya.
- v. H₀₅ Days in accounts payables does not affect financial performance of listed non-financial firms in Kenya.
- vi. H₀₆, leverage, Liquidity, firm size, days in accounts receivables and days in accounts payables do not have effect on financial structure of listed non-financial performance.

1.5 Significance of the Study

In the past, studies carried out on financial performance of listed non-financial firms have concentrated on the developed countries and on capital structure. This study contributes to understanding of the interrelationships between financing and operating policies. It not only documents that various dimensions of financial structure affecting firms performance in Kenya and internationally, but particularly reveals a relation between financial structure and financial firm performance.

The findings of this study will contribute to knowledge about the financial structure of listed non-financial firms in developing countries like Kenya, and the behaviour of

these structures in relation to financial performance. This information will provide non-financial institutions, consultants and entrepreneurs with the necessary tools to plan the financing of their businesses. The findings will also provide information for policy makers involved in promoting investment. It will also provide a basis for further research in financial structure focusing on developing countries.

Academicians and Researchers

The study of the relation would enrich our understanding about the effects of financial structure on financial performance of listed non-financial firms. Scholars may also wish to use the findings of this study as a basis for further research on these unresolved issues of optimal financial structure.

Regulatory Authorities

The study would also be of significance to the Capital Markets Authority. Due to the previous corporate scandals (eg Uchumi Supermarkets), the significance of the results of this study cannot be overemphasized.

Shareholders and Potential Investors

Firms' shareholders also need to appreciate the possible agency issues in determining the firm's financing decisions. The agency problems may also arise between the firm's controlling shareholders and the debt providers and between the debt suppliers and their minority shareholders. For example, the controlling shareholder of a firm and the firm's debt providers might belong to the same business groups. In such a case, instead of performing the active monitoring and governance function, the debt suppliers could become the centre of corrupted crony systems.

Management

Management of publicly listed non-financial companies would benefit from the study as they need to make more informed financial decisions. Investors would also make

use of the findings of this research to be able to make more informed decisions, as they will be aware of the financial structures to expect before they invest in a firm.

Financial analysts and Consultants

Others to benefit would be financial consultants and scholars who intend to analyze the content of information contained in financial reports to be able to offer proper advice to clients on the possible effects of financial structure compliance levels.

1.6 Scope of the Study

The main objective of the study was to establish the effect of financial structure on financial performance of listed non-financial firms in Kenya. The companies in the financial sector were excluded from the study to remove any anomalies associated with this sector which is highly regulated by the central bank prudential on issues of liquidity, cash holdings, and provision for bad debts among other factors (Santos, 2001). The financial leverage of financial companies is not comparable to those of non-financial companies (Mwangi, Anyango & Ameyia).

1.7 Limitations of the Study

In carrying out this research, the following limitations were experienced the first was regarding to the limitation of data, as at sometimes the data were not complete as experienced with the NSE Handbook, in mitigating this challenge had to make frequent visits at Kestral Brokers for the updates. The second challenge was that of closure of the financial year, Not all firms had a calendar year from January to December some firms they close their accounting books in September and this was a challenge in updating data at NSE.

The third limitation was that the time frame of the study was from 2009 to 2013. Data collection and analysis of the data was very time consuming and since the annual reports of all companies in our sample had to be studied and taking into the

limited amount of time that was to be spent on this research, a time frame of five years was found reasonable and possible to accomplish. The other limitation is regarding the incompleteness of data; at times the data from some companies were not complete. This limitation was mitigated by using the missing data as the missing values in the regression analysis so that the sample might remain forty two (42).

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section draws related material from different studies carried out in the past and in different areas. It comprises of the introduction, conceptual literature, and empirical literature on the effect of Leverage, Liquidity and Firm size on financial performance of listed non-financial firms. The areas which were covered include the theoretical review, under this section theories were discussed in the order of Trade of theory; Irrelevance theory; Pecking order theory, Market Timing theory, Cost of theory and Trade credit theories and conclusion sections. Conceptual literature focuses on the main theories and principles of capital structure. The capital structure of a business entity is described and the various ways of its measurement discussed. The performance of businesses is discussed and the methods of its measurement are explained. The empirical literature section will focus on the various relevant empirical studies undertaken on capital structure of firms. Finally the conclusion will provide a discussion of the theoretical and conceptual framework. The section of critique looked at the short coming of the existing literature and the research gaps.

2.2 Theoretical Literature Review

A theory is a seasoned statement or group of statements, which are supported by evidence meant to explain some phenomena. A theory is a systematic explanation of the relationship among phenomena. Theories provide a generalized explanation to an occurrence. Therefore a researcher should be conversant with those theories applicable to his area of research (Kombo and Tromp, 2009). According to Trochim (2006) Aguiter (2009), and Tormo (2006), a theoretical framework guides research, determining what variables to measure, and what statistical relationships to look for in the context of the problems under review. Thus, the theoretical literature helps the researcher see clearly the variables of the study; provides a general framework for the data analysis; and helps in the selection of applicable research design. Good

theories and models provide causal accounts of the world and allow one to one to make predictive claims under certain conditions, bring conceptual coherence to a domain of science and simplify our understanding of the world (Mouton, 2001).

2.2.1 The Trade-off Theory

According to Keynes (1936), firms need liquidity to face their current expenses. Thus they have to raise funds in capital markets or liquidate existing assets. However, capital markets are imperfect and there are transaction costs which can be avoided by holding a sufficient cash level. Thus, the firm can avoid the situations where it is forced to forgo its profitable investments, to cut its dividend payments or to liquidate its assets. And this is one of the principal benefits of holding a sufficient cash level.

Like debt, cash holding generates costs and benefits; and is very important in financing the growth opportunities of the firm. The principal benefit of holding cash is that it constitutes a safety buffer (Levasseur 1979) which allows firms to avoid the costs of raising external funds or liquidating existing assets and which allows firms to finance their growth opportunities. In fact, since companies operate in an imperfect market, they either have difficulty accessing the capital markets or bear a very important external financing cost. Moreover, the principal characteristic of their environment is uncertainty. Thus, insufficient amount of cash forces firms to forgo profitable investment projects or to support abnormally high costs of financing. Two principal costs are associated to cash holdings. These costs depend on whether managers maximize shareholders wealth or not. If managers' decisions are in line with shareholders' interests, the only cost of cash holdings is its lower return relative to other investments of the same risk. If managers don't maximize shareholders' wealth, they increase their cash holdings to increase assets under their control and so to be able to increase their managerial discretion. In this case, the cost of cash holdings will increase and include the agency cost of managerial discretion. Thus, we can apply the idea of Trade-off Theory to determine the optimal level of cash.

Additional insights about capital structure can be obtained by moving to a dynamic, multiperiod setting. Modigliani (1982) extends Farrar and Selwyn (1967) to show that the marginal value of leverage may depend on inflation, as well as the personal tax rates on debt and equity, and the corporate tax rate. Although he finds the marginal value of leverage may be quite sensitive to inflation, he concludes that it remains moderate in practice. Early empirical evidence on the trade-off theory [e.g., Bradley, Jarrell, and Kim (1984)] yielded mixed results. Myers (1984) argues that the trade-off theory also fails to predict the wide degree of cross-sectional and time variation of observed debt ratios. Barnea, Haugen, and Talmor (1987) developed a multiperiod capital structure model that includes differential costs of debt and equity financing as well as the possibility of real firm growth. In an important insight, they recognize that a firm's optimal multiperiod debt policy sets interest relative to taxable income on a period-by-period basis. In their model, a growing, riskless firm can shield all of its income from corporate taxation and achieve an interior optimal capital structure. Fischer, Heinkel, and Zechner (1989) consider the optimal dynamic corporate recapitalization policy in the presence of recapitalization costs. They find that a firm's debt ratio may optimally vary over time, suggesting an optimal range rather than level for the debt ratio.

Lewis (1990) argues that, due to debt maturity considerations, there may be more than one current debt ratio corresponding to a set of future interest payments. For a given set of interest payments over time, a firm's current debt ratio can vary with its debt maturity structure, reflecting the term structure of interest rates as well as different default risks. In this context, there may be multiple optimal debt ratios even if the set of interest payments is unique. The trade-off theory of capital structure argues that firms balance the corporate tax benefit of debt against these various costs. The theory yields an intuitively pleasing interior optimum for firms, and gives a rationale for cross-sectional variation in corporate debt ratios: firms with different types of assets will have different bankruptcy and agency costs and different optimal debt ratios. Additionally, firms with different amounts of alternative tax shields will have different marginal tax benefits of debt, thus implying different levels of optimal debt ratios. While there is less than total agreement on the exact costs and benefits of

leverage, and what role they explicitly play in firms' capital structure decisions, most financial economists accept some version of the trade-off theory.

However, recent studies examining capital structure responses to changes in corporate tax exposure [Givoly, Hayn, Ofer, and Sarig (1992), MacKie-Mason (1990), and Trezevant (1992)] provide evidence supporting the trade-off theory. An apparently serious problem with the trade-off theory is that the debt ratios seemingly predicted by theory are significantly higher than those observed. Average debt ratios of US Corporations have typically been around 25 to 30 percent.

Previous research on Static Trade-off Theory concludes mixed results. On one side, study shows that target leverage is not important. Many studies for instance, (Titman and Wessels 1988), Rajan & Zingales ,1995) and (Fama & French, 2002) affirm that higher profitability firms tend to borrow less, which is inconsistent with the actual trade-off prediction that higher profitability firms should borrow more to reduce tax liabilities. (Graham, 2000) estimating the cost and benefit of debt, finds that the large and more profitable firms with low financial distress expectation use the debt conservatively. Microsoft is the classic example of those studies that it being a very profitable organization has maintained a zero-debt policy. Further survey of corporate executives shows the softness of target leverage (Graham & Harvey, 2001). Speed of adjustment towards target leverage is slow (Jalilvand & Harris, 1984); (Fama & French (2002).

Firms on their capital structures do not compensate the impacts of stock returns actively and prior stock returns are the main determinant of market leverage Welch, 2004). On the other side, many studies support trade-off theory and confirm the role of target leverage (See e.g. Marsh, 1982; Hovakimian, Hovakimian, 2004; Hovakimian & Tehranian, 2004). (Frank & Goyal, 2004) favor the trade-off theory in leverage decisions by examining relative importance of 39 factors. (Flannery & Rangan, 2006) contradicted Welch (2004) by finding the effects of firms' prior stock price movements. Most of the time firms are not so active with respect to their financial policy but to move towards target leverage firms do buy back their securities (Leary & Roberts, 2005); (Hovakimian, 2001). (Strebulaev, 2004) and

(Hennessy & Whited, 2005) have tried to conciliate inconsistent empirical findings with respect to Trade-off Theory in a dynamic framework.

Trade-off theory hence predicts the cost and benefit analysis of debt financing to achieve optimal capital structure. There is evidence in favor of the static tradeoff and optimal financing structure. Several authors, such as (Schwartz & Aronson, 1967), have documented evidence of strong industry effects in debt ratios, which they interpret as evidence of optimal ratios. (Long & Malitz, 1985) show that leverage ratios are negatively related to research and development expenditures, which they use as a proxy for intangible assets. (Smith and Watts, 1992) also document a negative relation between growth opportunities and debt ratios. (Mackie-Mason, 1990) reports evidence that firms with tax loss carry forwards are less likely to issue debt. This conclusion is consistent with (Miller and Modigliani, 1966), who detected the positive effects of interest tax shields in the market values of electric utilities.

2.2.2 Irrelevance Theory

The cooperation between the university professors and Nobel Prize winners, Franco Modigliani and Merton Miller in 1958, resulted in what is today known as the first and one of the most important theories in the field of capital structure Pagano, (2005). The original proposition and the fundamentals of Modigliani and Miller's Theorem (1958), suggest that there is a fully efficient market in which there are no taxes, transactions or bankruptcy costs, it also suggests that there is abundant information at the disposal of all parties. Optimal level of leverage is achieved by balancing the benefits from interest payments and costs of issuing debt. Financially, debt is considered beneficial because of the debt-tax-shields that help to minimize expected tax bills and maximize the after-tax cash flows (Modigliani & Miller, 1958). In 1963 Modigliani and Miller included also the effect of taxes on their model, so that the theory can be closer to the reality. According to Modigliani and Miller's Publications (1958, 1961 and 1963), three important propositions, which form the base of their theorem, can be drawn (Breuer & Gürtler, 2008) into three proposition where a firm's total market value is independent of its capital structure,

where the cost of equity increases with its debt-equity ratio and where a firm's total market value is independent of its dividend policy.

According to this proposition: the capital structure of a firm does not influence its market value. M&M proposition (I) contains assumptions that under certain conditions, the firm's debt-equity ratio has no effect on the firm's market value. As described by Modigliani and Miller (1958), their approach is based on assumptions indicated in the following paragraphs: All capital markets where trading of securities takes place, are perfect. Furthermore, investors are free to buy and sell securities, investors have the entire needed knowledge and are able to know all changes and information, there is no cost when buying and selling of securities (such as broker's commissions, the transfer fee, etc.), both investors and firms are equal if they want to borrow against securities (Bose, 2010, p. 92).

In their study, Modigliani and Miller took into consideration and discuss two firms with different structures of capital, one including debt in its structure of capital whereas the other one without debt in its structure of capital. Modigliani and Miller have concluded that financial decisions taken by companies have no implication on their market value, by assuming that both firms are given equal cash flow (Brigham & Ehrhardt, 2010). In substance M&M theorize that expected cash flow is divided proportionally between company investors in compliance with the capital structure, whereas the company's value remains unaffected by this share-out (Popescu & Sorin, 2011). According to Modigliani and Miller (1958), the asset profitability and risk determine the value of the company and not the capital structure.

The first proposition with taxes by Modigliani and Miller holds forth that due to the exclusion of interest from the payment of taxes, firms that have more debt in the capital structure are more valuable, or have a higher market value than firms that do not have debt in their capital structure; this is known as the tax shield effect. Due to the system of taxation (which excludes the interest paid on the debt), the tax portion paid is smaller for firms with debt in the capital structure than it is for those that have no debt. This influences directly the firm's market value (Alifani & Nugroho, 2013).

According to Alifani and Nugroho (2013) firms find it convenient to have the debt in their capital structure due to the tax shield effect, which consequently means that they pay less tax, due to the payment of interest and this thing influences the market value of the firm. According to this proposition “the cost of equity increases with the increment of debt-equity ratio in the capital structure of a firm”. According to Breuer & Gürtler (2008), even if all propositions are named the same from –I– to –III–, they differ significantly. The second M&M proposition, according to Villamil (2000), firm’s weighted average cost of capital is not affected by its leverage. Hence, M&M proposition II specifies when the firm’s debt equity ratio increases, so do the firm’s cost of equity undergoes a linear increase.

By way of the second proposition Modigliani and Miller (1958) argue that, since investors are rational, the expected return of equity (K_e) is directly proportional to the increase in gearing (D/E). The expected return of equity (K_e) is compensated by the benefit of cheaper debt finance, and, therefore the Weighted Average Cost of Capital (WAAC) remains unchanged (Alifani & Nugroho, 2013)

In the above discussion, it can be noted that the weighted average cost of capital (WACC) is not influenced by the capital structure, as a result, the firm’s value remains unaffected by the capital structure, in the case when corporate taxes are not included in the model. So in this case, financial decisions are not important for the firm’s value and shareholders’ equity. In this model, the firm can use any sort mixture of capital structure, without effect in its value (Kaplan Financial Knowledge Bank, 2012).

In 1963 M&M included also the effect of taxes in their work. M&M argue that the ratio of corporate tax is equal to the current value of savings from taxes. Therefore, the firm can decrease weighted the average cost of capital (WAAC) by increasing the debt percentage in the capital structure, since such companies pay less tax, due to the tax shield phenomenon (Brigham & Ehrhardt, 2010). According to this proposition: A firm’s total market value is not affected by its dividend policy M&M (1961) in their study published in the Journal of Business “Dividend policy, growth and valuation of shares”, state that the dividend policy is not important for the firm’s value, also as

described by Villamil (2000), M&M third proposition determines that there is no dependence of the firm's market value of its dividend policy. M & M (1961) argue that the market value of a firm is determined by its earning power and the risk of its underlying assets. M&M claim that in a perfect market, the value of a firm remains unaffected by its dividend policy (Miller & Modigliani, 1961).

According to M&M proposition III, Breuer & Gürtler (2008) argues that this proposition is nothing more than net present value. Furthermore, with respect to this proposition, the authors stress the fact that there is a possibility for the firm's financiers to make independent decisions regarding to the firm's investment decisions (Breuer & Gürtler, 2008, p. 5).

In their second seminal paper on corporate capital structure, Modigliani and Miller (1963) show that firm value is an increasing function of leverage due to the tax deductibility of interest payments at the corporate level. However, the implication of the Modigliani-Miller model with corporate taxes seems embarrassingly extreme: value maximizing firms should finance with 100 percent debt. The "corner solution" implied by their model is very much at odds with empirical observations of firm behavior.

In the 30 years since, enormous academic effort has gone into identifying the relevant costs associated with debt financing those firms presumably trade off against this substantial corporate tax benefit. Although direct bankruptcy costs are probably small, other potentially important factors include personal taxes, agency costs, asymmetric information, product/input market interactions, and corporate control considerations. Surveys of this literature include Bradley, Jarrell, and Kim (1984), Harris and Raviv (1991), Masulis (1988), and Miller (1988)

2.2.3 Pecking Order Theory

The Pecking Order Theory originated by (Myers and Majluf, 1984) is the nearest pertinent theory explaining the company's optimal capital structure. (Myers', 1984) Pecking Order Theory is based on the assertion that managers have information

about their firms than investors. It deals with the role of asymmetric information in determining the amount of debt and equity a firm will issue. Firms should finance investments first with internal funds, then with safe debt, followed by risky debt and finally with equity to reduce the adverse signals that may be emitted. The implication of the Pecking Order Theory is that firms do not have a target debt-equity ratio as they choose their leverage ratio based on their financing needs. This theory also implies that firms do not have target cash balances but cash is actually used as a buffer between retained earnings and investment needs (Ferreira & Vilela, 2004). This also means that when a firm increases its internal funds, its leverage falls. As a firm continues to maintain a surplus of internal funds for the purpose of reducing adverse selection costs, it will accumulate excess cash which it will use to pay off its debt when due. As for a firm which does not have a constrained investment policy, it simply uses cash flow to increase cash (Opler et al. 1999). Working capital is a readily available internal source of financing which can thus act as an alternate source of financing to external capital, especially for the purpose of fixed-investment smoothing in order to maintain a stable fixed investment path. External funds can be very costly due to floatation costs and the problem of asymmetric information, especially for financially constrained firms (Fazzari & Petersen, 1993).

A higher stock in working capital, which will have lower marginal valuation to the firm (Fazzari & Petersen 1993), allows managers to pursue their positive net present value projects without having to worry about having to issue undervalued securities. The argument of the Pecking Order Theory implies that there is a very strong relationship between investment in working capital and information asymmetry. Due to this, firms with different characteristics, such as growth opportunities, size, asset tangibility etc., would result in different investment policies in working capital depending on the roles played by these characteristics in aggravating and/or reducing the problem of asymmetric information and the costs associated with the level of asymmetric information. When it comes to pecking order theory it has been supported by many academic such as Asquith and Mullins (1986) and Eckbo (1986) had shown evidence of adverse selection relating to equity issues. While research by Cadsby, Frank and Maksimovic (1990) provided similar evidence on experimental

bases regarding firm's financing requirements. One of the aspects of pecking order theory implies that when it comes to profitable firms, they would always prefer internal financing rather than taking up new debts or equity. Even though, debt is considered cheaper than equity within certain proportions.

Further assertion by (Myers 1984) suggests that it is because the value of firm and wealth of shareholders associated with firm is disturbed by asymmetry of information. This argument is supported by (Fama and French, 2000) who found that profitable firms were less levered as compared to non-profitable firms. (Murray and Goyal, 2003) held that large firms tend to accumulate debts in order to support and keep up with the payments of dividends while small firms tend to behave in opposite behavior. (Jong, Verbeek & Verwijmeren, 2011) examined 6000 US firms in the period of 1985 to 2005 and found evidence to support pecking order theory. (Bessler et al, 2008) concluded that non US firms support Pecking Order Theory. Many research conducted on developing countries support Pecking Order Theory. (Brealey, Myers & Allen, 2008) suggested that the Pecking Order Theory explains the reason why more profitable companies usually ask less for borrowing money – not because they don't have lower levels of debt targets but because they don't need external source of funds. On the other hand, less profitable companies issue bonds because they don't have enough internal funds to finance investments decisions. In this matter, those companies also prefer issuing debt before issuing new stocks. Following this theory, not only managers of less profitable companies but also managers of more profitable companies would choose a more aggressive working capital policy, pressuring for lower level of current assets and higher level of financing via suppliers, in a way to source internally the needed funds to finance their companies and to avoid issuing debt and equity.

Pecking Order Theory, however, does not explain the influence of taxes, financial distress, security issuance costs, agency costs, or the set of investment opportunities available to a firm upon that firm's actual capital structure (Liesz, 2001) It also ignores the problems that can arise when a firm's managers accumulate so much financial slack that they become immune to market discipline. In such a case it

would be possible for a firm's management to preclude ever being penalized via a low security price and, if augmented with non-financial takeover defenses, immune to being removed in a hostile acquisition. For these reasons Pecking Order Theory is offered as a complement to, rather than a substitution for, the traditional trade-off model (Liesz, 2001). This theory instigates the first research hypothesis: Working capital does not affect the financial performance of listed non-financial firms in Kenya.

Capital structure in a dynamic setting

Under a dynamic setting even a riskless firm's optimal debt ratio can be significantly less than 100 percent even in the Modigliani and Miller (1963) model with no offsetting disadvantage of debt. Risky firms may also have debt ratios significantly less than 100 percent with only small debt-related costs, such as bankruptcy or agency costs, or personal taxes. These are manifestations of a more basic principle: in the presence of nominal growth (either real growth or simply inflation), the debt ratio becomes a distorted measure of corporate tax shielding; since firm value reflects growth while current debt does not.

This distortion occurs for *any* debt ratio, whether optimal or not. Thus, firms may shield a large fraction of their earnings from corporate tax and still exhibit a relatively low debt ratio. Growth, and changing prospects for growth, may drive the magnitude of debt ratios, as well as both their cross-sectional and time variation. From the viewpoint of the trade-off theory, since debt ratios provide an inaccurate measure of corporate tax shielding, they are unlikely to be an appropriate measure of the benefit/cost tradeoff.

2.2.4 The Market Timing Theory

This theory has challenged both the static tradeoff theory and the pecking order theory. The market timing (or windows of opportunity) theory, states that firms prefer external equity when the cost of equity is low, and prefer debt otherwise. According to the market timing theory, corporate executives sometimes perceive

their risky securities as mis-valued by the market. Conditional on having financing needs, firms issue equity when they perceive the relative cost of equity as low, and issue debt when they perceive the relative cost of equity as high. The pecking order theory assumes semi-strong form market efficiency, while the market timing theory does not rely on this assumption. If markets are not semi-strong form efficient, then external equity is not necessarily more expensive than external debt, and a firm might want to take advantage of a temporary overvaluation of debt or equity by raising external capital before the overvaluation disappears.

Therefore, while the pecking order theory predicts equity issues to be rare, the market timing theory does not make such a prediction. In fact, the standard pecking order is just a special case under the market timing theory. Under normal market conditions, firms follow the standard pecking order. When external equity is less expensive than debt, firms prefer external equity if they seek external financing, when external equity is really cheap, issuing equity is the first choice. Similarly, when debt is really cheap, issuing debt becomes the first choice. Firms may issue equity or debt even if they have no immediate financing needs and do not need to adjust their capital structure, because issuing overvalued securities is itself a positive NPV project.

Fama and French (2004) document that equity issues have been increasingly frequent and firms issue equity even when they could have used internally generated funds or issued debt. They interpret this as evidence against the pecking order theory. They suggest that new external equity financing tools, such as stock-financed acquisitions and employee stock option plans, involve less severe information asymmetry, leading to the increased use of external equity financing over time. However, they do not provide an explanation for why firms are more likely to fund acquisitions with external equity in the 1990s, and why employee stock option plans, which have been around for a long time, have become more popular over time as a mechanism for external equity financing.

2.2.5 The Cost trade-off theory

Cost of liquidity and illiquidity are involved in maintaining a particular level of current assets. Very high level of current assets means excessive liquidity hence return on assets will be low as funds are tied up in idle cash and stocks earn nothing while high levels of debtors reduce profitability. Therefore cost of liquidity through low rates of return increases with the level of current assets. Conversely, cost of illiquidity means holding insufficient current assets whereby a firm will be unable to honor its obligations forcing it to borrow on short-term at high interest rates. This adversely affects a firm's creditworthiness and may limit future access to funds and possible insolvency.

The mechanisms that explain why liquidity can suddenly evaporate operate through the interaction of funding illiquidity due to maturity mismatches and market illiquidity. As long as a financial institution's assets pay off whenever its debt is due, it cannot suffer from funding liquidity problems even if it is highly levered. However, non-financial firms typically have an asset-liability maturity mismatch and hence are exposed to funding liquidity risk. A funding shortage arises when it is prohibitively expensive both to borrow more funds (low funding liquidity) and sell off its assets (low market liquidity). In short, problems only arise if both funding liquidity dries up (high margins/haircuts, restrained lending) and market liquidity evaporates (fire sale discounts (Muganga, 2010)).

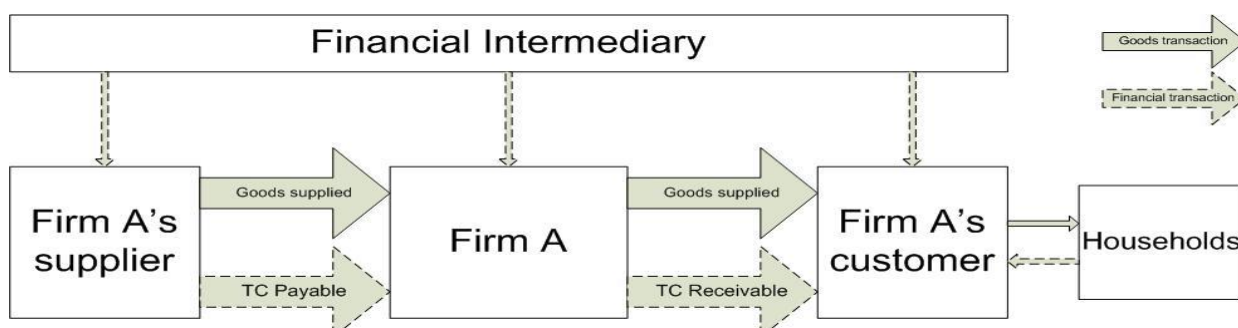
In a study carried out by (Liargovas & Skandalis, 2008) argues that firm can use liquid assets to finance its activities and investments when external finance is not available. On the other hand, higher liquidity can allow a firm to deal with unexpected contingencies and to cope with its obligations during periods of low earnings. (Almajali et al, 2012) found that firm liquidity had significant effect on financial performance of insurance companies. The result suggested that the insurance companies should increase the current assets and decrease current liabilities because the positive relationship between the liquidity and financial performance.

A study carried out in the US by Kim et al. (1998) examined reasons for companies holding excess liquidity and their findings confirmed two already mentioned factors; need for excess cash is usually considered as economical way to decrease the firm's dependence on costly external financing and profitable future investment opportunities. Once again, optimal conditions are very seldom maintained in real life and firms prefer to hold some liquidity as a cushion against contingencies. It is very difficult to make any rules of thumb for optimal for liquidity levels and as cited above it has remained one of the unanswered questions in finance. As already discussed in the context of working capitals needs, similarly the need of liquidity depends on many factors such as the industry and financial structure of the firm. They further established (Kim et al., 1998) that firms with lower market-to-book ratios (P/B) have larger positions in liquid assets and also that firm size tends to be negatively related to liquidity. Firms with more volatile earnings and lower returns on physical assets relative to those on liquid assets tend to have significantly larger positions in liquid assets.

2.2.6 Trade Credit Theory

Early theoretical trade credit theories relate the use of trade credit to the presence of information asymmetries and the monitoring advantage that suppliers have over banks, more recent analyses focus on the importance of trade credit (mainly in the form of accounts receivables) as a cash management tool. As illustrated in Figure 2.1, the use of trade credit of a firm is indeed two fold and is interlinked with the need to enhance production. A firm can be seen as a supplier and therefore its accounts receivables (TCR) are a proxy for how much it lends to customers. However a firm is also a customer and its accounts payable (TCP) are its borrowing from suppliers. Moreover, it is often shown that firms that receive trade credit from their own suppliers are more likely to extend trade credit to their customers.

Figure 2.1: Firm performance and the financial environment



Source: Petersen and Rajan (1997).

Transaction Costs

Transaction Costs have been declared to be one rationale to sustain credit sales. Transactions costs theory describes that paying at once for several shipments collectively saves transaction costs and permits flexibility in payments (Ferris, 1981). Furthermore, money can be saved by keeping smaller cash balances.

Financial Models

Financial models are based on capital market imperfections concerning information asymmetries. These imperfections lead to the phenomena in which firms, with lower costs of financing due to their better access to capital markets, tender trade credit to other financially constrained firms (Schwartz, 1974). Credit facilities firms to support the growth of their clients. In European countries, all these gains speak about the nearer and greater relationship between buyer and seller than between the financial institutions and buyers. That is supplier have a threatening tool to stop future suppliers when consumer does not pay in time. On the hand a financial institution may not have a device like to have power over consumers, while warning to depart future lending may have instant consequences on the consumers' attitude (Petersen & Rajan, 1997).

It is also believed that trade credit can serve to alleviate credit rationing problems as trade credit plays as a signal on the buyers' good quality to the financially intermediary (Bias & Gollier, 1997; Frank & Maksimovic, 1998;). Financial theory proposes that the seller has a lead over financial institutions in information gaining and controlling the customer.

Price Discrimination

Price discrimination is a possibility of charging dissimilar prices for dissimilar consumers. This can happen in a situation when credit conditions include discounts on paying before time. These conditions are mostly presented by leading firms in the industry (Brennan et.al., 1988; Mian & Smith, 1992.) These firms have an advantage to collect extra sales to existing clients without decreasing price. As a result these firms extend high priced trade credit which is not acceptable for creditworthy customers. While for low rating companies this credit may be acceptable as it may be less costly than borrowing from financial intermediary (Brennan et al., 1988; Petersen & Rajan, 1997).

Additionally, trade credit offers a facility to gauge the liquidity of products earlier than paying for it so this becomes an inherent guarantee for seller's manufactured goods. (Lee & Stow, 1993). For small and less reputable sellers this facility of trade credit may have a great importance (Frank & Maksimovic, 1998)

Macroeconomic Conditions

Macroeconomic conditions have also an effect on trade credit usage and conditions which cannot be ignored and has been highlighted by many researchers. Kashyap et al. (1993) investigated the effect of macroeconomic factors on trade credit and found that under restrictive monetary policy and controlled money supply smaller firms are ready to extend trade credit on the given conditions as increasing borrowing rates create trade credit a supplementary viable type of short term funding. Petersen and Rajan (1997) highlighted the same issue and found that firms extend trade credit when loan from financial intermediaries is not present. They further added that, in

this scenario, the role of financial intermediary will be performed by large suppliers as firms having no access to institutionalized financial markets will borrow from these large firms.

Table 2.1 Summary of Theoretical Literature Review

Variable	Name of Theory	Year	Author(s)
Capital Structure	Modigliani and Miller's Theorem	1958	Modigliani and Merton Miller
Leverage	Pecking Order Theory	1984	Myers and Majluf
Liquidity	The Cost trade-off theory	2011	Pandey I
Cash holdings	The Trade-off Theory	1979	Levasseur (1979)
Cash holdings	The market timing theory	2004	Fama and French
Accounts Receivables & Account Payables	The Trade credit	1997	Petersen and Rajan

2.3 Conceptual Framework

In a broad sense a conceptual framework can be seen as an attempt to define the nature of research (Gay, 1992). This study sought to establish the effects of financial structure on financial performance of listed non-financial firms in Kenya. The independent variables in this study were Working capital, leverage, cash flow holdings, liquidity and firm size. The study sought to establish the impact of the

independent variables on the dependent variable which is financial performance of listed non-financial firms.

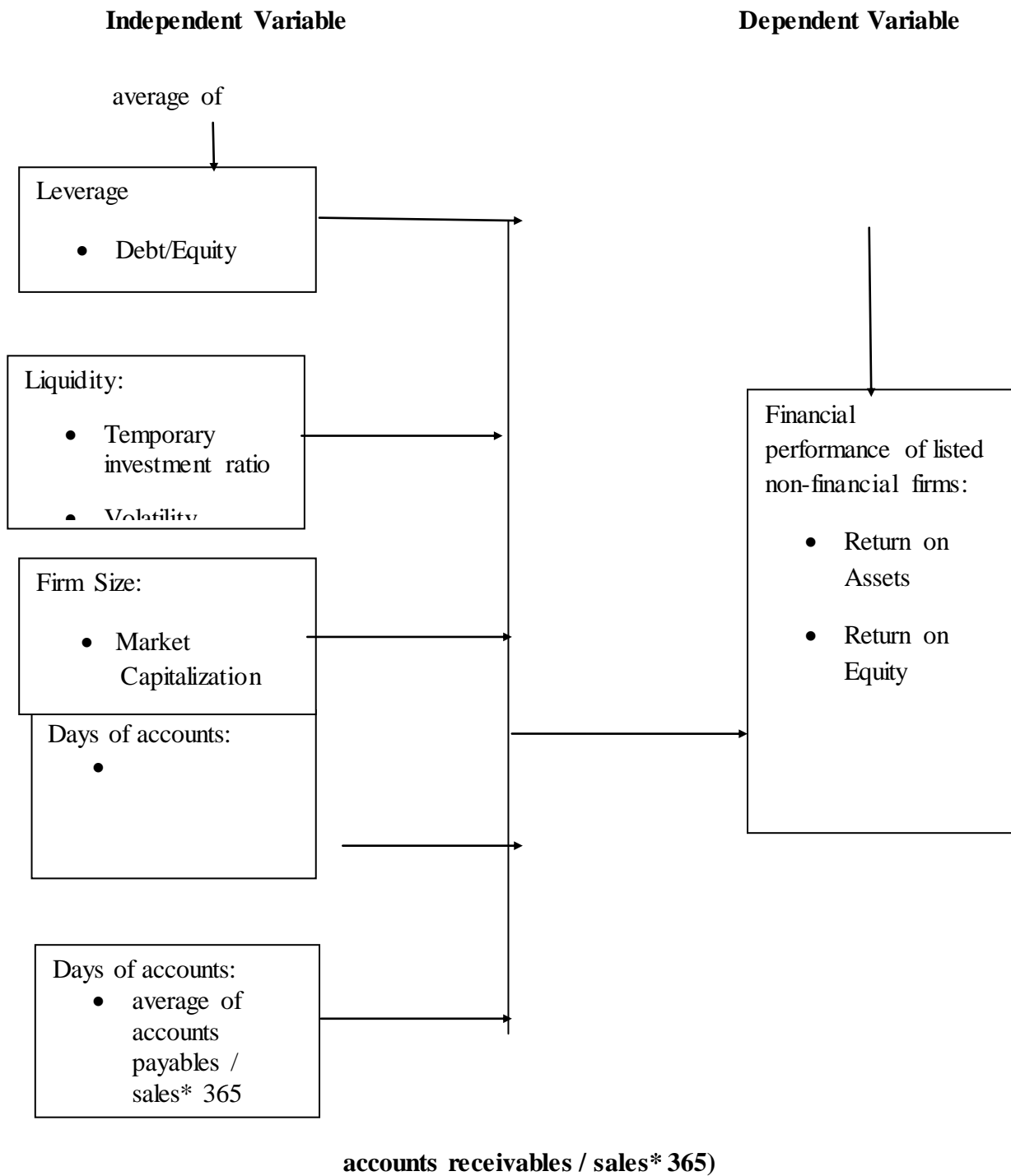


Figure 2.2: Conceptual Framework

2.4 Empirical Literature Review

2.4.1 Financial Performance of Listed Non-Financial Firms

Financial goals drive higher profits, but non-financial company objectives also aid in improving the company as a whole. The non-financial improvements help round out the company's strengths in areas like customer service, production quality and employee satisfaction. These areas create a stronger company as a whole that is able to perform better in the market, increasing profits. A study by Frost (2010) observed that focusing on employee satisfaction allows firms to create a workforce of engaged, loyal employees. With increased employee morale often comes better attendance and effort. By aiming to improve the workplace for employees, firm management should show employees that the firm cares about more than simply making money. The study also found that the quality of work produced by the firm affects reputation and amount of business you receive. When a firm offers consistently high-quality products or services, the firm gains a positive reputation that potentially leads to more business and repeat customers. Frost (2010) revealed that making customers feel valued encourages them to give your company additional business in the future. Improved customer service is possible through employee training and high expectations. The study concluded that improving the way the general public views the company can mean increased business and stronger relationships with the community (Frost, 2010).

2.4.2 Working Capital

Falope and Ajilore (2009) studied working capital and corporate profitability. The study aimed to provide empirical evidence about the effects of working capital on profitability performance for a panel data made up of a sample of 50 Nigerian quoted non-financial firms for the period 1996-2005. The study utilized panel data econometrics in a pooled regression, where time-series and cross-sectional observations were combined and estimated. The study found a significant negative relationship between net operating profitability and the average collection period,

inventory turnover in days, average payment period and cash conversion cycle for a sample of fifty Nigerian firms listed on the Nigerian Stock Exchange. Furthermore, the study found no significant variations in the effects of working capital between large and small firms. These results suggest that managers can create value for their shareholders if the firms manage their working capital in more efficient ways by reducing the number of days accounts receivable and inventories to a reasonable minimum (Falope & Ajilore, 2009). The study was however, conducted in Nigeria more than half a decade ago and a similar study were of much essence in Kenya.

Dong and Su (2010) reported that the firms' profitability and liquidity are affected by working capital in his analysis. In his research, he collected data for the period 2006-2008 to assess the companies listed in stock market of Vietnam. He focused on the variables that include profitability, conversion cycle and its related elements and the relationship that exists between them. Results from this study indicated that the relationships among these variables are strongly negative. This denotes that decrease in the profitability occurs due to increase in cash conversion cycle. It is also found that if the number of days of account receivable and inventories are diminished then the profitability will increase numbers of days of accounts receivable and inventories. Although the study has enriched the current study on the prevailing phenomenon, the study was done in Vietnam while the current study seeks a Kenyan perspective.

Mathuva (2010) examined the influence of working capital components on corporate profitability on firms listed in the Nairobi Stock Exchange for the periods 1993 to 2008. Of the 36 sample firms in the sample, the final sample contained 30 firms. In order to ensure accuracy of the collected data, a number of filters were applied. Observations of firms with anomalies such as negative values in their total assets, current assets, fixed assets, capital, depreciation or the interest paid were eliminated. Observations of items from the balance sheet and profit and loss accounts showing signs contrary to reasonable expectations were removed. Since the panel data being analyzed had a number of influential observations and data errors as pointed out by (Fama & French ,1998), each year was treated as having missing values 1% of the

observations in each tail of the distribution for each variable. This is consistent with previous studies (Deloof, 2003; Garcia-Teruel & Martinez-Solano, 2007; Raheman & Nasr, 2007). As a result of eliminating 1% of the extreme values, the final sample of 468 firms-year observations over the period from 1993 through 2008 was arrived at.

A study by Nyarige and Olweny (2014), studied the effect of working capital management on performance of firms listed at Nairobi Securities Exchange in Kenya, using a sample of 27 listed firms was used for the period 2003 to 2012. The study employed a Robust GMM applied to Arellano-Bover/Blundell-Bond linear dynamic panel-data estimation analysis. The results revealed that days of accounts receivables and cash conversion cycle have an indirect effect on performance measured by gross operating profit. Days of accounts payables and days in inventory have a significant and direct effect on performance. Inflation and size were found to have indirect and direct effect on performance respectively. Although not significant, they cannot be ignored by finance managers who wish to boost performance. Further the ANOVA results confirmed that various sectors have varying and somewhat some averages of working capital. The study concluded that Industry averages should be not be ignored when setting working capital management policies in Kenya.

This study sought to determine the effect of Leverage, Liquidity and firm size on financial performance of firms listed non-financial firms at the Nairobi Securities Exchange in Kenya. (Mathuva, 2010) conducted a study on the influence of working capital management components on corporate profitability: a survey on Kenyan listed firms. The OLS-model includes all variables of the fixed effects model in addition to the dummy variables. The fixed effects model explains the variations in profitability within firms while the pooled OLS explain the variations in profitability between firms. Consistent with Garcia-Teruel and Martinez-Solano (2007), this methodology presents important benefits. These include the fact that panel data methodology assumes that individuals, firms, states or countries are heterogeneous. Time-series and cross-section data studies not controlling for this heterogeneity run the risk of obtaining biased results. Furthermore, panel data gives more informative

data, more variability, less collinearity among variables, more degrees of freedom and more efficiency (Baltagi, 2001). In his findings, Mathuva (2010) established that: i) there exists a highly significant negative relationship between the time it takes for firms to collect cash from their customers (accounts collection period) and profitability, ii) there exists a highly significant positive relationship between the period taken to convert inventories into sales (the inventory conversion period) and profitability, and iii) there exists a highly significant positive relationship between the time it takes the firm to pay its creditors (average payment period) and profitability. Based on the key findings from this study, the following conclusions can be derived: The management of a firm can create value for their shareholders by reducing the number of day's accounts receivable. The management can also create value for their shareholders by increasing their inventories to a reasonable level. Firms can also take long to pay their creditors in as far as they do not strain their relationships with these creditors. Firms are capable of gaining sustainable competitive advantage by means of effective and efficient utilization of the resources of the organization through a careful reduction of the cash conversion cycle to its minimum. In so doing, the profitability of the firms is expected to increase.

2.4.3 Leverage

Leverage refers to the proportion of debt to equity in the capital structure of a firm. The financing or leverage decision is a significant managerial decision because it influences the shareholder's return and risk and the market value of the firm. The ratio of debt-equity has implications for the shareholders' dividends and risk, this affect the cost of capital and the market value of the firm (Tikkiwal & Pandey, 2007). (Gupta & Zeithaml, 2006) cited some studies showing contradictory results about the relationship between increased uses of debt in capital structure and financial performance. (Berger & Bonaccorsi di Patti, 2006) examined capital structure and firm performance which was a new approach to testing agency theory and an application to the bank industry.(Berger & Bonaccorsi di Patti ,2006) were the first to employ a simultaneous-equations model that accounts for reverse causality from performance to capital structure. We also control for measures of ownership structure

in the tests. The study employed a number of different measures of firm performance which include: financial ratios from balance sheet and income statements; stock market returns and their volatility; and Tobin's Q, which mixes market values with accounting values. The study reported a positive relationship between leverage and financial performance, while Gleason et al, (2000); Simerly and Li, (2000) showed negative relationship between financial performance and leverage level. However, although banking is a regulated industry, banks are subject to the same type of agency costs and other influences on behavior as other industries. The banks in the sample are subject to essentially equal regulatory constraints, and the study focused on differences across banks, not between banks and other firms.

In Jordan, (Zeitun & Tian, 2007) conducted a study on capital structure and corporate performance on 167 Jordanian firms from 1989 - 2003. Data used in this section comes from the Amman Stock Exchange (ASE) and includes the traded companies for the period 1989-2003. All companies were required to deliver their financial statements for every year between 1989 and 2003. The data set contains detailed information about each firm. The items of interest were: balance sheets, income statements, tax paid, interest paid, depreciation, and market valuation. The study used different measures of corporate performance: the return on assets (ROA), return on equity (ROE), earnings before interest and tax plus depreciation to total assets (PROF), market value of equity plus book value of debt to the book value of assets (Tobin's Q) , market value of equity to the book value of equity (MBVR), price per share to the earnings per share (P/E), and market value of equity and book value of liabilities divided by book value of equity (MBVE). Variables such as ROA, ROE, PROF, Tobin's Q, MBVR, MBVE, P/E were used to measure performance, while the ROE, ROA, and PROF were employed as measures representing accounting performance measures. (Zeitun & Tian, 2007) found a significantly negative relationship between financial structure and corporate performance. In other words, firms can take advantage of debt to make a better return on equity. (Nazir & Afza, 2008) and (Chiou, Cheng & Wu, 2006) measured leverage by the debt ratio leverage calculated by the total liabilities divided by total assets. (Apphumani, 2008)

measured leverage as total long-term debt capital divided by equity. In this study, debt level (DEBT) will be measured as long term debt divided by total assets.

2.4.4 Cash Flow Holdings

According to (Jensen, 1986), managers are restrained when external financiers withhold cash for new investment. On the other hand, managers become free to make new investment when there is increased cash flow. (Ozkan & Ozkan, 2004) provide evidence that cash flow and growth opportunities have a positive impact on the level of cash holdings in their UK sample. They also found out that ownership structure plays an important role. Guney, Ozkan & Ozkan (2007) provide empirical evidence that there exists a non-linear relationship between cash holdings and leverage, more specifically; cash is negatively related to leverage for firms with low leverage and positively related in the more levered firms.

A study by (Benoit, 2004) observed that although rapid developments have considerably enriched our understanding of the factors driving firms' cash holdings, the literature has paid little attention to whether cash policy has a real effect on firms' day-to-day operations. A cash-rich firm can use its war chest to finance competitive strategies. The study also found that a firm can rely on a strong balance sheet to hurt rivals' bottom lines and prospects through aggressive pricing. More generally, a firm may use its cash reserves to fund a number of alternative competitive policies such as the location of stores or plants, the construction of efficient distribution networks, advertising targeted against rivals, or even the employment of more productive workers. From a different perspective, the study concluded that a firm's stock of cash can signal the possibility of aggressive behavior, thereby distorting competitors' actions in the product market. Accordingly, one can view cash holdings as a preemptive device that may affect, for instance, rivals' entry or capacity expansion decisions (Benoit, 2004).

(Ferreira & Vilela ,2004) investigated the determinants of corporate cash holdings using an empirical investigation from a sample of publicly traded firms from 1987 to 2000 in EMU countries which included Germany, France, Netherlands, Italy, Spain,

Finland, Belgium, Austria, Ireland, Luxemburg, Greece and Portugal. The results suggested that cash holdings are positively affected by the investment opportunity set and cash flows and negatively affected by asset's liquidity, leverage and size. Bank debt and cash holdings are negatively related, which supports that a close relationship with banks allows the firm to hold less cash for precautionary reasons. Firms in countries with superior investor protection and concentrated ownership hold less cash, supporting the role of managerial discretion agency costs in explaining cash levels. Capital markets development has a negative impact on cash levels, contrary to the agency view (Ferreira & Vilela, 2004).

A study by (Kim, Seo & Sohn, 2011) in Korea explored the leverage impact on corporate cash holdings using SME data listed in the emerging Korean market between 1980 and 2008. The study focused on the relationship between cash holdings and leverage. (Kim et al., 2011) hypothesized that the impact of leverage on cash holdings is likely to be non-monotonic for listed Korean SMEs, as asserted by (Guney et al., 2007). As firms' leverage acts as a proxy for their ability to issue debt, the authors expected to see a negative relation as a substitution effect between leverage and cash holdings. However, they also expected firms to save larger cash levels as their leverage increases in order to minimize their risk of experiencing financial distress, costly bankruptcies, and the threat of default. Thus, the study expected a positive relation as a precautionary effect between leverage and cash holdings. The study did not find this relationship during an analysis of a full period; however, the study found only a substitution effect during the Korean financial crisis, whereas the authors found both the substitution and precautionary effects after the Korean financial crisis.

The study findings provide robust support for the view that a significant non-monotonic relationship between leverage and cash holdings emerged only after the Korean financial crisis. It is clear, therefore, that SMEs tend to have a significant precautionary motivation for saving cash after suffering a financial shock. The study made several discoveries by applying the Partial Adjustment Model (PAD) to market frictions such as adjustment and transaction costs. This application produces similar

conclusions regarding the relationship between leverage and cash holdings. However, the study distinguished the results of the dynamic cash model from those of the static model. This finding about SMEs suggests that, while large firms hold lower levels of cash, there may be other factors affecting the way in which the size of a firm exerted influence on the financial policy of its cash holding after the Korean financial crisis. The study however, focused on the relationship between cash holdings and leverage using listed SMEs (Kim et al., 2011).

The study undertaken by (Linnard & Nordberg, 2013) in Sweden empirically investigated the determinants of liquidity holdings in Swedish listed firms. The study was undertaken using a deductive and quantitative approach. The determinants of corporate liquidity were investigated using the least square method on a panel data set as well as on a cross-sectional data set. The theoretical framework consisted of traditional capital structure theories, namely the trade-off theory and the financing hierarchy model. The findings of the study implied that lines of credit constitute the majority of Swedish firms' liquid holdings confirming that this source of liquidity should not be overlooked within corporate liquidity literature. The results further showed that the use of lines of credit is even more pronounced post-crisis than pre-crisis. The study concluded that both the trade-off model and the financing hierarchy model play important roles, although none of the theories fully explain these determinants. The study found several determinants behind the proportionality of lines of credit and cash in total liquidity, but also that there are differences pre- and post-crisis (Linnard & Nordberg, 2013).

2.4.5 Liquidity

An organization is insolvent when its "going concern" value does not exceed the expected value of its liabilities. In normal times, when non-financial markets are strong, it is fairly easy to identify insolvent non-financial firms. However, at times of crisis, it is difficult since solvency becomes so co-mingled with liquidity issues. Prices of assets become disconnected from estimates of expected cash flows and, instead, reflect the prices that could be obtained if the assets had to be sold tomorrow to the few investors prepared to buy such assets at such time the liquidity price

(Davies, 2009). Cost of liquidity and illiquidity are involved in maintaining a particular level of current assets. Very high level of current assets means excessive liquidity hence return on assets will be low as funds are tied up in idle cash and stocks earn nothing while high levels of debtors reduce profitability. Therefore cost of liquidity through low rates of return increases with the level of current assets. Conversely, cost of illiquidity means holding insufficient current assets whereby a firm will be unable to honor its obligations forcing it to borrow on short-term at high interest rates. This adversely affects a firm's creditworthiness and may limit future access to funds and possible insolvency. A firm should balance the cost of liquidity and cost of illiquidity at equilibrium as shown in figure 2.2 (Pandey, 2011). The mechanisms that explain why liquidity can suddenly evaporate operate through the interaction of funding illiquidity due to maturity mismatches and market illiquidity. As long as a financial institution's assets pay off whenever its debt is due, it cannot suffer from funding liquidity problems even if it is highly levered. However, non-financial firms typically have an asset-liability maturity mismatch and hence are exposed to funding liquidity risk. A funding shortage arises when it is prohibitively expensive both to borrow more funds (low funding liquidity) and sell off its assets (low market liquidity). In short, problems only arise if both funding liquidity dries up (high margins/haircuts, restrained lending) and market liquidity evaporates (fire sale discounts (Muganga, 2010).

Another view on liquidity was explained by (Liargovas & Skandalis, 2008) argues that firm can use liquid assets to finance its activities and investments when external finance is not available. On the other hand, higher liquidity can allow a firm to deal with unexpected contingencies and to cope with its obligations during periods of low earnings. (Almajali et al, 2012) found that firm liquidity had significant effect on financial performance of insurance companies. The result suggested that the insurance companies should increase the current assets and decrease current liabilities because the positive relationship between the liquidity and financial performance.

A study made by (Kim et al. ,1998) in USA examined reasons for companies holding excess liquidity and their findings confirmed two already mentioned factors; need for excess cash is usually considered as economical way to decrease the firm's dependence on costly external financing and profitable future investment opportunities. Once again, optimal conditions are very seldom maintained in real life and firms prefer to hold some liquidity as a cushion against contingencies. It is very difficult to make any rules of thumb for optimal for liquidity levels and as cited above it has remained one of the unanswered questions in finance. As already discussed in the context of working capitals needs, similarly the need of liquidity depends on many factors such as the industry and financial structure of the firm. (Kim et al. ,1998) found in their study in the U.S. that firms with lower market-to-book ratios (P/B) have larger positions in liquid assets and also that firm size tends to be negatively related to liquidity. Firms with more volatile earnings and lower returns on physical assets relative to those on liquid assets tend to have significantly larger positions in liquid assets.

2.4.6 Firm Size

There exist different points of view about the relationship between the level of debt and the firm size. (Modigliani and Miller, 1958) suggested that there is no relationship between size and level of debt, keep in mind that this result is reliable with the market efficiency hypothesis. However, numbers of authors arguing that the negative or positive relationship among the two concepts is vast. According to (Heshmati, 2008), listed companies have easier access to the equity market, in comparison with the smaller companies, because of low fixed costs. Therefore, there should be a negative relationship between the firm size and the debt level. (Fama & Jensen, 2003) argued that transaction cost and asymmetric information problem are lesser in large firms in compare with small firms. Therefore, it is expected that large firms prefer to raise fund from equity rather than debt. SMEs often find costly to disperse asymmetric information.

Financiers are not willing to offer small firms capital, or the price of the offered capital is too high for small firms (Ferri & Jones, 2009). Another reason, which

makes small firms reluctant to use outside financing, is the market access limitations. In many cases, the minimum volume of capital is required in order to raise external fund (Cassar & Holmes, 2003). This idea is supported by empirical evidence that concludes SMEs are often forced to use internal source, and then short-term debt contracts due to the limited access to the long term financing (Osteryoung et al., 2002; Chittenden et al., 2006; Michaelas et al., 2009). Many authors have suggested a positive relationship between a firm leverage and its size (Fama & French, 2002). Warner (2007) and (Ang et al., 2012) stressed out, that when the value of the firm increases; the ratio of direct bankruptcy costs to the firm value would decrease. The effect of these expected bankruptcy costs might be little on large firms' borrowing decisions, which empower them to take on more leverage (Rajan & Zingales, 2005). On the other side, smaller firms face a different reality in raising the long term debt.

Asymmetric information is not the main reason, but the reason is the significant negative correlation between firm size and the probability of bankruptcy (Hall et al., 2004). One explanation could be that relatively large firms tend to be more diversified; therefore, they are less prone to insolvency (Titman & Wessels, 2008). (Chittenden et al. 2006) believed in the large companies the cost of monitoring is much lower than small firms. They argued that moral hazard and adverse selection problems are decreased reasonably in large companies, subsequently using debt as an external funding is much better in listed companies than SMEs. Hence there is a positive relationship between the level of debt and the firm's size.

(Cardone-Riportella et al, 2001) stressed out that there is a positive relationship between borrowing and size of the firm. Later on (Daskalakis & Psollaki, 2010) found three reasons to confirm the positive relationship between level of debt and the firm size. They found that there is a strong relationship between the size of the firms and the risk of bankruptcy. This means a large company has a lower risk of default than small firms. They also found that listed companies might be able to incur lower transaction costs associated with debt. They also found out that due to transparency and accuracy in a large company the cost of information asymmetry is lower than in SMEs. It is assumed that large firms are less likely to default because they are more

diversified than smaller firms; therefore, large firms should have a greater debt capacity (Titman & Wessels, 2008).

Business size also tends to maintain a positive relationship with financial structure of small businesses (Lopez-Gracia & Sanchez-Andujar, 2007). Nevertheless, (Byoun , 2007) believed that small firms tend to have lower leverage ratios not because of internally generated funds as implied in the Pecking Order Theory, but because of additional equity financing. Interestingly, findings of different studies indicate that the environment or country where data are being collected intermediates the relationship. For example, firm size is positively related to book leverage for firms in the United Kingdom (Ozkan, 2001) and Japan (Mahmud, 2003), but is negatively related to book leverage for Nigerian firms (Ezeoha, 2008). Firm size is measured as the natural logarithm of total assets.

In another study conducted in Greek, French, Italian and Portuguese small and medium sized enterprises (SMEs) by (Daskalakis & Psollaki ,2010) sought to extend previous research on country versus firm specific differences in capital structure choices of SMEs by examining whether their findings on the relative importance of country versus firm-specific determinants of capital structure also apply (1) to a larger sample of institutionally similar countries and (2) to a larger set of conditioning variables. Unlike (Daskalakis & Psillaki, 2010) and (Hall et al., 2004), (Daskalakis & Psollaki, 2010) explicitly account for the role of business risk of contracting costs and thereby on the SMEs debt to equity choices. Risk is particularly important within the SMEs context, because it is directly associated with the SMEs death rate, which is much higher when compared to large business. The study assessed the extent to which the debt ratio depends upon their asset structure, size, profitability, risk and growth using a balanced panel model. The results showed that SMEs in these countries seem to determine their capital structure in similar ways as it is evident by the signs of the statistically significant regression coefficients.

The study found that size is positively related to leverage, while the relationship between leverage and asset structure, profitability and risk is negative. Furthermore, it was of interest to examine whether empirical evidence from capital structure

choices of large listed companies can also be applied to small firms. Over the last 30 years, the small business research literature has grown significantly resulting in a recognition and acceptance of the idea that small business is specific (Torres & Julien, 2005). This specificity concept is dual. First, it refers to differences with large firms; for example, the capital structure decisions of SMEs are constrained by access to financial and credit markets. Second, it refers to the large heterogeneity of the small business field itself. Hence it is important not only to investigate SMEs separately from large companies, but also to test whether this inherent heterogeneity accounts for firm-specific differences within the broad SMEs field (Daskalakis & Psollaki, 2010).

In Portugal, (Serrasqueiro, Nunes & da Silva, 2011) empirically examined how capital structure decisions of family-owned SMEs are different from the rest. The study variables included short-term debt and long term debt. To estimate the proportions of short-term debt and long-term debt financing relative to the financial deficit, financial deficit ($FD_{i,t}$), was used as the independent variable given by variation of fixed assets plus variations of working capital plus variation of long-term debt less cash flow. As determinants used in the estimation of the adjustments of short-term debt and long-term debt, the study considered: profitability ($PROF_{i,t}$) given by the ratio between operating profits and total assets, age ($AGE_{i,t}$) given by the logarithm of the number of years of the firm's life, size ($SIZE_{i,t}$) given by the logarithm of sales, tangible assets ($TANG_{i,t}$) given by the ratio between fixed assets and total assets, growth ($GROW_{i,t}$) given by the growth rate of sales, intangible assets ($INT_{i,t}$) given by the ratio between intangible assets and total assets; effective tax rate ($ETR_{i,t}$) given by the ratio of income tax paid divided by profits before taxes and after interests, non-debt tax shields ($NDTS_{i,t}$) given by the ratio between depreciation and total assets, and risk ($EVOL_{i,t}$), given by the absolute value of the variation of operating profits. The results suggested that family ownership is an important determinant for: i) the variations of short and long-term debt stimulated by the financial deficit; and ii) the rate of adjustment of short and long-term debt toward the respective target levels. That is, when internal finance is insufficient, those firms turn to short-term debt, and their variations of short-term debt are almost exclusively

a consequence of the financial deficit (Serrasqueiro et al., 2011). However, the study focused on family-owned SMEs in Portugal.

2.5 Critique of the existing literature

In reviewing the working capital variable, Vahid, Mohsen & Mohammadreza (2012) revealed that working capital management plays a significant role in determining success or failure of firm in business performance due to its on firm's profitability as well as on liquidity. This study has greatly aided the current study in guiding the researcher in what to expect in the findings. However, the study was done in India and a similar study is of essence in a developing economy in Kenya. The study by (Zeitun & Tian, 2007) which found that significantly negative relationship between financial structure and corporate performance was carried out in Jordan and a similar study in Kenya should be conducted.

Benoit's, (2004) study which observed that although rapid developments have considerably enriched our understanding of the factors driving firms' cash holdings, the literature has paid little attention to whether cash policy has a real effect on firms' day-to-day operations, has also aided the current study in guiding the researcher in what to expect. However, the study was conducted a decade ago and a more recent study is of paramount importance so as to reflect the current perspective of the prevailing phenomenon in a developing country like Kenya.

The study by Almajali *et al*, (2012) which found that firm liquidity had significant effect on financial performance was conducted on insurance companies while the current study looks in the financial performance of listed non-financial companies. In reviewing the size variable, this study on the study by (Daskalakis & Psollaki, 2010) which found that found that SMEs in these countries (Greece, France, Italy and Portugal) seem to determine their capital structure and that size is positively related to leverage. However, the study was inclined on studying SMEs and the results can therefore be generalized to European SMEs. The current study however seeks an African perspective of listed non-financial companies.

2.6 Summary of the chapter and Research Gap

Financial structure components that contribute to business failure can be addressed using strategies and financial decisions that drive growth and the achievement of organizational objectives. To understand how firms in developing countries finance their operations, it is necessary to examine the determinants of their financing structure decisions. Non-financial companies which are listed in Nairobi Stock Exchange have not been performing well and some actually records huge losses. Business success depends heavily on the ability of financial managers to effectively manage the financial structure components and non-financial firms in Kenya were characterized by a decline in performance. This situation has led to loss of investors' wealth and confidence in the stock market.

Firms in Africa operate within a different environment as compared with firms in developed countries mainly due to the differences in institutional infrastructure. Capital markets in Africa are characterised by inefficiency, they are small and thinly traded (Singh, 1999). In contrast, capital markets in developed economies are characterised by well-functioning and efficient stock markets and well developed credit markets. It is therefore inappropriate to claim that the findings that come out of studies done on developed economies apply to developing economies such as the African market.

In Africa (Ghana, Kenya, Nigeria, South Africa and Zimbabwe), studies have tested for capital structure dependence on variables such as asset tangibility, corporate tax, profitability, size and firm age (Gwatidzo & Ojah, 2009). However, the current study focuses on joint effect of leverage, liquidity, size Days Accounts receivables and Days Accounts payables of listed non-financial firms in Kenya. Studies on the relationship between various financing decisions and performance have produced mixed results. It is against this backdrop that the study was carried out.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

Research methodology has been defined by (Zikmund, Babin, Carr & Griffin, 2010) as a part that must explain technical procedures in a manner appropriate for the audience. It achieves this by addressing the research and sample designs used for the study, the data collection and fieldwork conducted for the study and the analysis done to the collected data. (Kombo & Tromp, 2009) concur with (Zikmund et al., 2010) that research methodology deals with the description of the methods applied in carrying out the research study. Therefore this chapter presents the model, methods, data and estimation techniques used in the study to investigate the effect of leverage, liquidity, and firm size on financial performance of listed non-financial firms in Kenya.

3.2 Research Design

This study used a causal research design. Causal research is designed to collect raw data and create data structures and information that allowed the researcher to model cause-and-effect relationships between two or more variables (Hair et al., 2006). (Krauss, 2005) points out that causal research examines whether one variable causes or determines the value of another variable.

A variable is a symbol or concept that can assume any one of a set of values. Causal research reveals a cause-and-effect relationship between dependent and independent variables. A dependent variable is a symbol or concept that is expected to be caused by an independent variable (Martinez, 2007). An independent variable is a symbol or concept over which the researcher has some control. The objective of this study is to establish the effects of financial structure on financial performance of listed non-financial firms in Kenya. This is a cause-and-effect relationship.

3.2.1 Research Philosophy

A research philosophy is a belief about the way in which data phenomenon should be gathered, analysed and used. According to (Hudson and Ozanne, 1988), research philosophy is closely linked to the following two terms (i) epistemology which is the relationship between the researcher and the reality or what is known to be true and (ii) ontology which is the nature of reality or what is believed to be true. The primary purpose of scientific knowledge then is to transform things believed into things known that is, doxa to episteme. The two major philosophical doctrines or paradigms in the social science inquiry are positivism and interpretive.

3.2.2 Positivism

According to (Hudson & Ozanne, 1988), “positivism ontology asserts that there is a single, external and objective reality to any research question regardless of the researcher’s belief. Thus, the positivist researchers take a controlled and structural approach in conducting research by initially identifying a research topic, constructing appropriate research questions and hypotheses and by adopting a suitable methodology. Positivists also claim it is important to clearly distinguish between fact and value judgment. As positivist researchers, they seek objectivity and use consistently rational and logical approaches to research. Further, statistical and mathematical techniques are central in the research methods adopted by positivist researchers and they adhere to specifically structured research techniques to uncover single and objective realities. The goal of positivist research is to make generalizations because human actions can be explained as a result of real causes that precedes their behaviour.

3.2.3 Interpretive

Under interpretive, there can be more than one reality and many ways of accessing such realities. However, the knowledge generated from this discipline is perceived through socially constructed and subjective interpretations (Hopkins, 2000). An interpretive researcher enters the field with some sort of prior insight about the

research topic but assumes that it is insufficient in developing a fixed research design due to complex, multiple and unpredictable nature of what is perceived as reality. During data collection stage, the researcher and his informants are interdependent and mutually interactive with each other. The goal of interpretive research is to understand and interpret human behaviour rather than to generalize and predict causes and effects (Hopkins, 2000). Given the research problem as outlined in chapter one, the best fit is to follow the positivist paradigm. This was done recognizing the following parameters identified by (Hussey & Hussey, 2007) for this positivist paradigm: The study produced quantitative data and this fit well with the causal research approach.

3.3 Target Population

The target population for this study was all listed non –financial firms at the Nairobi stock exchange in Kenya. Target population-refers to the entire group of individuals or objects to which researchers are interested in generalizing the conclusions (Castilo. 2009). In this study the target population comprises of all listed non-financial firms at Nairobi stock exchange in Kenya. According to the Nairobi Securities Exchange, as at 2014, there were 59 listed firms at the NSE under different categories. Excluding the financials - Banking (11) and Insurance (6), there remains forty two (42) firms which formed the target population for the study. The study used data for 5 years from 2009 to 2013 from these companies (see Appendix I). This period was chosen because the country had just experienced post election violence.

3.4 Sampling Frame

(Lavrakas, 2008) defines a sampling frame as a list of the target population from which the sample is selected and that for descriptive survey designs a sampling frame usually consists of a finite population. (Gill and Johnson, 2002) on the other hand describe a sampling frame as a list of members of the research population from which a random sample may be drawn; (Mugenda & Mugenda, 2003) and (Kothari, 2004) define the term sampling frame as a list that contains the names of

all the elements in a universe. (Polit & Beck, 2003) refer to a sampling frame as the technical name for the list of the elements from which the sample is chosen from.

The sampling frame for this study consisted of all the listed non- financial firms in the Nairobi Stock exchange in Kenya as at 31 December 2013 (Appendix II). There are a total of 42 listed non-financial firms at the NSE under different categories. This study used the census due to the small population.

3.5 Data Collection

The study used panel data over a five year period (2009 to 2013) to examine the effects of Leverage, Liquidity, Firm size, Day's accounts receivables and accounts payables on Returns on Equity and Assets. Regression coefficients were interpreted using the E-views software output. To ensure that enough degrees of freedom in the models to be estimated are available, yearly data covering the entire study period was collected. The data collection method was secondary research, which essentially involved reviewing data sources that have been collected for some other purpose than the study at hand. Thus, all the relevant data for this study are available in secondary form. The data was extracted from the Nairobi Securities Exchange hand books for the period 2009-2013. This was done by use of desk search techniques by visiting the NSE website.

3.6 Definition and measurement of variables

Table: 3. 1 Operationalisation and Measurement of Study Variables

Variable	Name of Variable	Operationalisation	Measurement	Hypothesised direction
Dependent	Financial Performance of Listed Non-financial Firms.	Return on assets (ROA). The profit generated by each one shilling invested in assets	EBIT/EQUITY (Pratheepkanth, 2011; Ebaid, 2009; Abor, 2005)	Positive/negative
		Net profit after tax	Net profit – tax	Positive/negative
		Return on equity (ROE) The earnings per share on investment	Earnings after tax and other financial commitments divided by equity	
Independent	Leverage	Debt/equity	Debt ratio leverage calculated by the total liabilities divided by total assets	Positive/negative
Positive/negative	Positive/negative	Liquidity	Temporary investments	Positive/negative
		Volatile liability dependency ratio	The higher the ratio of temporary investments to total assets the greater the liquidity Volatile liabilities less temporary investment divided by net loans plus long-term securities. (Darling, 2006).	Positive/negative
Positive/negative		Firm size	Market	Positive/negative
			Total	

Positive/negative	Days accounts Receivables	capitalization Days of accounts: average of accounts receivables / sales* 365)	assets/investments Days of accounts: average of accounts receivables / sales* 365)	Positive/nega
Positive/negative	Days accounts Payables	Days of accounts: average of accounts payables / sales* 365	Days of accounts: average of accounts payables / sales* 365	Positive/nega

3.7 Data Processing and Analysis

3.7.1 Model specification, estimation and rationale of variables

Ordinarily, the amount of data collected in a study is rather extensive and research hypotheses cannot be answered by a simple perusal of numeric information and therefore data need to be processed and analyzed in an orderly and coherent fashion. The quantitative information is usually analyzed through statistical procedures. Statistical analyses cover a broad range of techniques, from simple procedures that we all use regularly like computing an average to complex and sophisticated methods. Although some methods are computationally formidable, the underlying logic of statistical tests is relatively easy to grasp, and computers have eliminated the need to get bogged down with detailed mathematical operations (Denzin & Lincoln, 2005).

3.7.2 Descriptive Statistics

A univariate analysis was conducted and the data converted to their natural logs to deal with the problem of large numbers and eliminate heteroscedasticity. Descriptive statistics were essential in determining the statistical properties of the model so as to

select the proper functional form of the estimable model. Therefore the study determined the spread of the data which included calculating for the mean, standard deviation, standard errors, jarque bera, maximum and minimum values of the variables overtime. This involved finding the correlation matrix to check which variables were highly correlated so as to avoid the problem of multi-collinearity which is a common problem in time series data. Normality of the data was also checked. Most tests for normality are based either on comparing the empirical cumulative distribution with the theoretical normal cumulative distribution (Kolmogorov-Smirnov, Anderson-Darling, Chi-Square) or empirical quantiles with the theoretical normal quantiles (PPCC, Wilk-Shapiro). In contrast, the Jarque-Bera test is based on the sample skewness and sample kurtosis.

The Jarque-Bera test statistic is defined as:

$$\frac{N}{6} \left(S^2 + \frac{(K - 3)^2}{4} \right)$$

with S , K , and N denoting the sample skewness, the sample kurtosis, and the sample size, respectively.

The JB statistic gives an indication of the distributions deviation of 0 (skewness and Kurtosis if it was truly a normal distribution). P-value = 0 indicates that the null hypothesis: "the distribution is normal" is rejected.

According to Robert Hall, David Lilien, et al. (1995) when using this test along with multiple regression analysis the right estimate is:

$$JB = \frac{n - k}{6} \left(S^2 + \frac{1}{4}(C - 3)^2 \right) \dots\dots\dots(3.1)$$

Where: n is the number of observations and k is the number of regressors when examining residuals to an equation.

3.7.3 Stationarity

Time series data consists of observations which are considered to be random variables that can be described by some stochastic processes. In order to work on time series data, the data is required to be stationary. A stationary process has statistical properties (mean, variance and covariance) that do not change over time. Therefore, it is important that one should first test a time series to see if it is stationary or not (Brockwell, 2011). If we want to analyze the relationship two or more time series variables, we must assume some sort of stability over time. A stochastic process which fails to satisfy these requirements is said to be a non-stationary process.

A non-stationary series can have a strong influence on its behaviour and its properties thereby leading to spurious regressions – the results that look good but which are really valueless. There are various formal ways of testing for stationarity such as Dickey-Fuller (DF) unit root test (Dickey & Fuller, 1979), Augmented Dickey-Fuller (ADF) unit root test, Kwiatkowski-Phillips-Schmidt-Shin (KPSS) tests and the Phillips-Peron (PP) unit root test. (Ayat & Burrige, 2000), stated that the Augmented Dickey-Fuller (ADF) test has become the most popular of many competing tests in testing for unit root. However, the KPSS stationarity test by is often used to supplement the ADF and PP statistics tests .A combination of tests including Augmented Dickey-Fuller tests were also conducted to determine the stationarity of the financial structure and financial performance of listed non-financial firms in Kenya. The ADF test can be defined as:

$$\Delta Y_t = Y_0 + \alpha t + \Phi Y_{t-1} + \sum \Phi_i Y_{t-i} + \varepsilon_t \dots\dots\dots (3.2)$$

$$\Delta Y_t = Y_t - Y_{t-1} + \varepsilon_t \dots\dots\dots (3.3)$$

Where:

$Y_t =$ Dependent variable. $Y_0 =$ Constant term.

$t =$ Variable. $\varepsilon_t =$ Stochastic disturbance term.

Hypotheses used to test series:

$H_0 = \Phi = 0$ (Y_t is non-stationery)

$H_1 = \Phi \neq 0$ (Y_t is not non-stationery)

3.7.4 Panel Regression

This study adopts a panel data regression using the Ordinary Least Squares (OLS) method where the data includes time series and cross-sectional data that is pooled into a panel data set and estimated using panel data regression. Regression analysis is a statistical tool for the investigation of relationships between variables. Usually, the investigator seeks to ascertain the causal effect of one variable upon another. For example the effect of a price increases upon demand or the effect of changes in the money supply upon the inflation rate. To explore such issues, the researcher assembles data on the underlying variables of interest and employs regression to estimate the quantitative effect of the causal variables upon the variable that they influence. (Dearing & Hamilton, 2006) stated that multiple regression analysis involves combining several predictor variables in a single regression equation. With multiple regression analysis, we can assess the effects of multiple predictor variables (rather than a single predictor variable) on the dependent measure.

The study hypotheses were measured using two panel data regression equations. Equation 3.3 had Returns on Assets (ROA) as the dependent variable and Liquidity (LQ), Firm size (FS), Leverage (LV), Day's Accounts receivables (AR) and Days accounts payables (AP) as independent variables. Equation 3.4 had Returns on Equity (ROE) as the dependent variable and Liquidity (LQ), Firm size (FS), Leverage (LV), Day's receivables (DR) and Days payables (DP) as independent variables. The regression analysis was run using E-views 7 data analysis software.

The hypotheses were tested using the following regression models;

$$ROA_{it} = \alpha + \beta_1 LQ_{it} + \beta_2 FS_{it} + \beta_3 LV_{it} + \beta_4 AR_{it} + \beta_5 AP_{it} + \mu_{it} \dots\dots\dots (3.4)$$

$$ROE_{it} = \alpha + \beta_1 LQ_{it} + \beta_2 FS_{it} + \beta_3 LV_{it} + \beta_4 AR_{it} + \beta_5 AP_{it} + \mu_{it} \dots\dots\dots (3.5)$$

Where;

ROA_{it} = Returns on assets at time t

ROE_{it} = Returns on equity at time t

LQ_{it} = Liquidity at time t

FS_{it} = Firm size at time t

LV_{it} = Leverage at time t

AR_{it} = Day's accounts receivable at time t

AP_{it} = Day's accounts payable at time t

α = Is the intercept

β_i = Is the parameter of explanatory variables of LQ, FS, LV, AR and AP

μ_i = Is the disturbance term

The equations log transformed are as follows;

$$LnROA_{it} = \alpha + \beta_1 LnLQ_{it} + \beta_2 LnFS_{it} + \beta_3 LnLV_{it} + \beta_4 LnAR_{it} + \beta_5 LnAP_{it} + \mu_{it} \dots\dots (3.6)$$

$$LnROE_{it} = \alpha + \beta_1 LnLQ_{it} + \beta_2 LnFS_{it} + \beta_3 LnLV_{it} + \beta_4 LnAR_{it} + \beta_5 LnAP_{it} + \mu_{it} \dots\dots\dots (3.7)$$

Where;

Ln = the natural logs of the variables

3.7.5 Granger causality

Pairwise Granger causality tests were conducted to determine the causal relationship that may exist between leverage, liquidity, and firm size on financial performance of listed non-financial firms in Kenya. It is a statistical concept of causality that is based on prediction. According to Granger causality, if a signal X_1 "Granger-causes" (or "G-causes") a signal X_2 , then past values of X_1 should contain information that helps predict X_2 above and beyond the information contained in past values of X_2 alone. Its mathematical formulation is based on linear regression modeling of stochastic processes (Granger 1969). More complex extensions to nonlinear cases exist, however these extensions are often (Granger, 1960's) more difficult to apply in practice. Granger causality (or "G-causality") was developed in 1960s by Prof. Clive W.J. Granger, recipient of the 2003 Nobel Prize in Economics and has been widely used in economics since the 1960s. Pair wise Granger Causality tests were conducted to see whether there exists a unidirectional, bidirectional or no causal relationships between the proxies of foreign portfolio investment and stock returns. Granger causality tests are conducted by regressing each variable on lagged values of itself and the other variable. The granger causality model is specified as:

$$Y_t = \beta_0 + \sum_{j=1}^J \beta_j Y_{t-j} + \sum_{k=1}^K \gamma_k X_{t-k} + U_t \dots \dots \dots (3.8)$$

We can use the F-test or the probability to examine the null hypothesis. What is most critical is the choice of lags J and K and this is because insufficient lags yield auto correlated errors and incorrect test statistics and too many lags reduce the power of the test. To determine the causal relationship we can estimate the reverse model:

$$X_t = \beta_0 + \sum_{j=1}^J \beta_j Y_{t-j} + \sum_{k=1}^K \gamma_k X_{t-k} + U_t \dots \dots \dots (3.9)$$

3.7. 6 Choice of Model: Testing for the Validity of the Fixed Effects Model

Panel data analysis has three more-or-less independent approaches ,Pooled panels; assumes that there are no unique attributes of individuals within the measurement set, and no universal effects across time, Fixed effects models, assumes that there are unique attributes of individuals that are not the results of random variation and that do not vary across time. it assumes differences in intercepts across groups or time periods, Random effects models, assumes there are unique, time constant attributes of individuals that are the results of random variation and do not correlate with the individuals that are the results of random variation and do not correlate with the individual regressors. This model is adequate if we want to draw inferences about the whole population, not only the examined sample.

The choice of the appropriate model depends upon the objective of the analysis, and the problems concerning the exogeneity of the explanatory variables. The last two models were considered in this analysis since pooled regression model assumes that all the institutions are the same which is not the case. The Pooled regression model assumes that the coefficients (including the intercepts) are the same for all the financial institutions. The fixed and random effects models cater for heterogeneity or individuality among the institutions by allowing each institution to have its own intercept value which is time invariant. As to which model between the fixed and random is appropriate, the study will use the Hausman test. A Hausman test will be carried out to determine whether to use the FE or RE model to address objectives of this study.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter contains details of secondary data analysis, sample characteristics, presentation of data analysis, interpretation and discussion of findings. Data presentation is organized based on the specific objectives of the study.

4.2 Summary of Descriptive Statistics

Secondary data collection method was used for the study and the data converted to their natural logs. Table 4.1 Descriptive Statistics 2009-2013; gives the summary descriptive statistics of the dependent and independent variables of the sample.

Table 4.1 Results of Descriptive statistics

	LN_ROA	LN_ROE	LN_AP	LN_AR	LN_FS	LN_LQ	LN_LV
Mean	-2.3927	-0.8487	4.9216	5.0044	19.5613	0.5729	-0.96171
Median	-2.4865	-1.4697	4.9802	5.1269	20.2117	0.4306	-0.9546
Maximum	2.9118	4.6150	6.6783	7.0130	26.2039	7.6917	2.1041
Minimum	-5.6268	-4.9618	2.5649	2.0794	9.9097	-2.4075	-5.2983
Std. Dev.	1.2611	2.0161	0.7092	0.8247	3.6587	0.9158	1.3219
Skewness	1.1518	0.8360	-0.5801	-0.9823	-0.8919	3.1071	-0.4243
Kurtosis	7.0561	3.08099	4.41795	5.07719	3.13381	26.3173	3.62804
Jarque-Bera	139.618	17.9807	21.5377	52.4501	20.5303	3736.53	7.15150
Probability	0.00000	0.00012	0.00002	0.00000	0.00003	0.00000	0.02799
Sum	-368.480	-130.700	757.923	770.675	3012.44	88.2290	-148.104
Sum Sq. Dev.	243.309	621.880	76.9550	104.059	2048.11	128.316	267.338
Observations	154	154	154	154	154	154	154

From the findings as indicated in table 4.1, Days accounts Payable had a mean of 4.9216 and standard deviation of 0.7092 with a minimum and maximum value of 2.5649 and 6.6783 respectively. The findings show that credit period granted by some firms to their clients at Nairobi securities exchange ranged averagely at 4.9216. The Days accounts receivables for 154 observations showed a mean of 5.0044, a standard deviation of 0.8247 and a maximum and minimum of 7.0130 and 2.0794, respectively suggesting that creditors were granted 5 days. The firms therefore exhibit aggressive policy towards their working capital management to avoid any short coming of operating cash. These findings are in consistency with those obtained by; Nyarige and Olweny (2014), with AR of 73.84 days and accounts Payables of 123.93 days, Mogaka and Jagongo (2013) with ACP of 96.5 days and CCC of 53.88 days and Safda and Chaudhry (2012) who used ROA to proxy profitability found out average accounts receivables of 89.36 days, days in inventory of 94.65, days in accounts payable of 154.79 days, with CCC of 30.35 days.). In his findings, Mathuva (2010) established that there exists a highly significant negative relationship between the time it takes for firms to collect cash from their customers (accounts collection period) and profitability, also a study in Istanbul in Turkey by Vural, Sokmen, and Çetenak (2014) found days of accounts receivables was 94.3 days, days in inventory was 94.56 days, but days of accounts payables of 64.48 days and cash collection cycle of 128 were different.

This means that the firms paid their debts as soon as possible faster than they could receive the debt owed to them by their customers. This may be attributed to the fact that firms' main intention was to grow sales by issuing longer credit period while the market may suppliers may be sensitive to debt owed to them by such firms a fact that firms may not want to spoil their credibility. The difference in these results to the ones of this study can be attributed to the nature of the market and economy in which they have been carried out. In advanced economies, the suppliers may be more sensitive than those in developing economies hence the reaction by firms. Liquidity of the firms for 154 observations had a mean of 0.5729 and standard deviation of 0.9158 and a minimum and maximum value of 7.6917 and -2.4075 respectively. The results in table 1 further indicate that, total current liabilities to total assets ratio

(working capital management 1) had a mean value of 0.5729 with minimum and a maximum values of -2.4075 and 7.6917 respectively. This observation indicates that the companies used less current liabilities to finance assets build-ups.

These results suggest that non-financial companies investigated followed a conservative financing working capital management policy. The maximum, value of 7.6917, however, indicates that some firms had adopted an extremely aggressive financing working management policy in which the value of current liabilities was almost five times the value of total assets. These findings are in line with the study by (Wamego Mwangi, Makau and Kosimbei, 2014)

Firm size had a mean value 19.5613 and standard deviation of 3.6587 and a minimum and maximum value of 26.2039 and 9.9097. This signify that the firms at Nairobi securities exchange have strong asset capitalization base. The mean value of financial leverage is -0.96171. This shows that, on average, non-financial companies used for the study were highly geared. The greatest proportions of their resources were financed by long term debt. The standard deviation of 1.3219 signifies a great variation in financial leverage as evidenced by the fact that the minimum observed financial leverage was -5.2983 while the maximum was 2.1041 this is consistent with Mohammadzadeh (2012) who reported a negative correlation between capital structure and ROA for companies listed on Tehran stock exchange. According to the (Economic Survey, 2013) the growth experienced in the banking sector increased credit to the private sector by 30.8 percent in 2011 and 11.8 percent in 2012. The increased access to credit may therefore explain the observed phenomenon on financial leverage. All the variables were found not to be normally distributed because none had a probability value of 0.1 and above.

4.3 Correlation Analysis

This was to ensure there were no highly correlated variables so as to avoid the problem of multi-collinearity in the model. Table 4.2 and 4.3 below show the correlation results from the analysis.

Table 4.2 ROA Correlation

	LN_ROA	LN_AP	LN_AR	LN_FS	LN_LQ	LN_LV
LN_ROA	1.000000	-0.038781	-0.224988	0.135502	0.046439	-0.125632
LN_AP	-0.038781	1.000000	0.296052	-0.168414	-0.326706	0.000561
LN_AR	-0.224988	0.296052	1.000000	0.006729	0.197998	-0.074485
LN_FS	0.135502	-0.168414	0.006729	1.000000	-0.008310	-0.036569
LN_LQ	0.046439	-0.326706	0.197998	-0.008310	1.000000	-0.037168
LN_LV	-0.125632	0.000561	-0.074485	-0.036569	-0.037168	1.000000

Notation

LN_= Natural log of variable

The natural logs of Days accounts payables, days accounts receivables and leverage had correlation coefficients of -0.04, -0.22 and -0.13 respectively indicating a weak negative correlation with Returns on assets. Firm size and liquidity had a weak positive correlation with Returns on assets with correlation coefficients of 0.14 and 0.05 respectively.

Table 4.3 ROE Correlation

	LN_ROE	LN_AP	LN_AR	LN_FS	LN_LQ	LN_LV
LN_ROE	1.000000	-0.129962	-0.234678	0.294728	0.073603	0.223760
LN_AP	-0.129962	1.000000	0.296338	-0.186125	-0.325211	0.011554
LN_AR	-0.234678	0.296338	1.000000	0.010696	0.188459	-0.073341
LN_FS	0.294728	-0.186125	0.010696	1.000000	-0.011750	-0.047423
LN_LQ	0.073603	-0.325211	0.188459	-0.011750	1.000000	-0.032601
LN_LV	0.223760	0.011554	-0.073341	-0.047423	-0.032601	1.000000

Notation

LN_= Natural log of variable

The natural logs of Firm size, liquidity and leverage had weak positive correlations with returns on equity with correlation coefficients of 0.29, 0.07 and 0.22 respectively. Days account payables and days account receivables had weak negative correlations with Returns on equity with correlation coefficients of -0.13 and -0.23 respectively.

4.3.1 Unit Root Tests

Unit root tests were conducted using a combination of methods including the ADF-Fisher Chi-square method to ensure that the variables had no unit roots. The tables below show the results from the tests.

Table 4.4 Unit Test on ROA

LN_ROA

Method	Statistic	Prob.**	Cross- Sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-8.00942	0.0000	31	121
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.96655	0.0015	28	112
ADF - Fisher Chi-square	78.0225	0.0823	31	121
PP - Fisher Chi-square	93.9419	0.0055	31	121

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

ROA was found to be stationery at intercept and level I (0). The Levin, Lin & Chu t* statistic was significant at 1 percent level of significance therefore we reject the null hypothesis that the variable has a unit root.

Table 4.5 Unit Test on ROE

LN_ROE

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-96.5510	0.0000	29	115
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-15.9985	0.0000	28	112
ADF - Fisher Chi-square	99.7895	0.0005	29	115
PP - Fisher Chi-square	119.141	0.0000	29	115

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

ROE was found to be stationery at intercept and level I (0). The Levin, Lin & Chu t* statistic was significant at 1 percent level of significance therefore we reject the null hypothesis that the variable has a unit root.

Table 4.6 Unit Test on Account Payables

LN_AP

Method	Statistic	Prob.**	Cross- Sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-9.95749	0.0000	38	152
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-3.18450	0.0007	38	152
ADF - Fisher Chi-square	103.942	0.0184	38	152
PP - Fisher Chi-square	119.651	0.0010	38	152

** Probabilities for Fisher tests are computed using an asymptotic Chi

-square distribution. All other tests assume asymptotic normality.

AP was found to be stationery at intercept and level I (0). The Levin, Lin & Chu t* statistic was significant at 1 percent level of significance therefore we reject the null hypothesis that the variable has a unit root.

Table 4.7 Unit Test on Account Receivables

LN_AR

Method	Statistic	Prob.**	Cross-Sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-34.4809	0.0000	39	156
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-6.18562	0.0000	39	156
ADF - Fisher Chi-square	113.501	0.0054	39	156
PP - Fisher Chi-square	139.379	0.0000	39	156

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

AR was found to be stationery at intercept and level I (0). The Levin, Lin & Chu t* statistic was significant at 1 percent level of significance therefore we reject the null hypothesis that the variable has a unit root.

Table 4.8 Unit Test on Size of the Firm

FS

Method	Statistic	Prob.**	Cross-Sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-13.3817	0.0000	33	131
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.86916	0.0021	32	128
ADF - Fisher Chi-square	85.3495	0.0548	33	131
PP - Fisher Chi-square	107.102	0.0010	33	131

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Firm size was found to be stationary at intercept and level I(0). The Levin, Lin & Chu t* statistic was significant at 1 percent level of significance therefore we reject the null hypothesis that the variable has a unit root.

Table 4.9 Unit root test on Liquidity

LN_LQ

Method	Statistic	Prob.**	Cross- sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-6.53084	0.0000	36	144
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-2.32312	0.0101	36	144
ADF - Fisher Chi-square	95.0452	0.0358	36	144
PP - Fisher Chi-square	114.252	0.0011	36	144

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Liquidity was found to be stationary at intercept and level I (0). The Levin, Lin & Chu t* statistic was significant at 1 percent level of significance therefore we reject the null hypothesis that the variable has a unit root.

Table 4.10 Unit Test on Leverage

LN_LV

Method	Statistic	Prob.**	Cross-sections	Obs
Null: Unit root (assumes common unit root process)				
Levin, Lin & Chu t*	-10.0319	0.0000	32	127
Null: Unit root (assumes individual unit root process)				
Im, Pesaran and Shin W-stat	-1.23584	0.1083	31	124
ADF - Fisher Chi-square	67.1825	0.3686	32	127
PP - Fisher Chi-square	80.2050	0.0831	32	127

** Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

Leverage was found to be stationery at intercept and level I (0). The Levin, Lin & Chu t* statistic was significant at 1 percent level of significance therefore we reject the null hypothesis that the variable has a unit root.

4.4 Leverage, Liquidity, firm size and financial performance Panel Estimation Results

4.4.1 Return on Assets

$$LnROA_{it} = \alpha + \beta_1 LnLQ_{it} + \beta_2 LnFS_{it} + \beta_3 LnLV_{it} + \beta_4 LnDR_{it} + \beta_5 LnDP_{it} + \mu_{it} \quad (4.1)$$

As mentioned previously in Chapter three there are three approaches to Panel data; Pooled, Fixed and Random affects model. This study employed the use of the Hausman test to determine the most suitable model. The null hypothesis is that both the fixed effect and Random effect estimation methods are suitable and should yield

similar coefficients while the alternative hypothesis is that one of the estimation methods is suitable. A significant Hausman statistic would indicate a difference in the coefficients of both the estimation methods so the null hypothesis is rejected that both the models are suitable and the fixed effect model is considered suitable in this case. Consequently an insignificant Hausman statistic would also imply a rejection of the null hypothesis that both the estimation methods are suitable and in this case the Random effects estimation method is suitable. Table below shows the results from the Hausman test. The Chi-square test statistic is 35.29 with a significant probability of 0.0000 which is significant at 5 percent level of significance which therefore means that the null hypothesis is rejected in favour of the fixed effects model. Therefore we accept the fixed effects model as suitable for this equation.

Table 4.11 Hausman test

Correlated Random Effects - Hausman Test

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	35.292726	5	0.0000

The Hausman test reveals significance of the random effects in the study at a P-value of 0.000 which is less than 5% significance level. This implies that the null hypothesis is rejected.

Table 4.12 Panel estimation ROA

Dependent Variable: LN_ROA

Method: Panel Least Squares

Date: 12/27/15 Time: 10:35

Sample: 2009 2013

Periods included: 5

Cross-sections included: 37

Total panel (unbalanced) observations: 158

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LN_DP	0.194423	0.211154	0.920766	0.3591
LN_DR	0.217607	0.224804	0.967983	0.3351
LN_FS	0.576672	0.111820	5.157153	0.0000
LN_LQ	-0.230392	0.131215	-1.755834	0.0818
LN_LV	-0.184269	0.177475	-1.038280	0.3013
C	-15.82534	2.711475	-5.836432	0.0000

Effects Specification

Cross-section fixed (dummy variables)

R-squared	0.677633	Mean dependent var	-2.484658
Adjusted R-squared	0.563693	S.D. dependent var	1.420601
S.E. of regression	0.938357	Akaike info criterion	2.933268
Sum squared resid	102.1396	Schwarz criterion	3.747376
Log likelihood	-189.7282	Hannan-Quinn criter.	3.263887
F-statistic	5.947280	Durbin-Watson stat	2.278184
Prob(F-statistic)	0.000000		

Equation 3.3 used Returns on assets as a proxy of financial performance of listed non-financial firms in Kenya.

H₀₁: Leverage does not affect financial performance of listed non-financial firms in Kenya.

Leverage had a coefficient of -0.18 and an insignificant probability value of 0.3013. Therefore we accept the null hypothesis that Leverage does not affect financial performance of listed non-financial firms in Kenya. The findings collaborate with those ones of (Emami, Salteh & Hasanzadeh (2014) studied firms in Tehran Stock exchange and found out that firms performance ,measured by (EPS/ROA) are negatively related to capital structure, however not consistent with findings of Berger and Bonaccorsi di Patti,2006), who revealed a positive relation between firm performance and capital structure while (Mohammed & Jaafer, 2012), in a study done in Jordan companies which showed a negative relation between debt and profitability, and in another study by (Abdul , 2012), in Pakistan firms the results revealed a negative and significant relationship exists between short term debt to total assets and total debt to total assets measured by Tobin's Q. A further study done by Lorpevl and Kwanum (2012) in Nigeria found a negative and insignificant relation between capital structure and firms performance for firms listed on Nigerian stock exchange. The Durbin Watson statistics is above 2 confirming that there is no autocorrelation.

H₀₂: Liquidity does not affect financial performance of listed non-financial firms in Kenya

Liquidity had a coefficient -0.23 and a probability value of 0.08 which is significant at 10 percent level of significance. This means that when liquidity reduces by 0.23 percent every year Returns on assets increase by 1 percent yearly. The null hypothesis that Liquidity does not affect financial performance of listed non-financial firms in Kenya is rejected.

The findings collaborate with those ones of (Almajali et al, 2012) found that firm liquidity had significant effect on financial performance of insurance companies. The result suggested that the insurance companies should increase the current assets and decrease current liabilities because the positive relationship between the liquidity and financial performance.

A study made by (Kim et al. ,1998) in USA examined reasons for companies holding excess liquidity and their findings confirmed two already mentioned factors; need for excess cash is usually considered as economical way to decrease the firm's dependence on costly external financing and profitable future investment opportunities.

H₀₃: Firm size does not affect financial performance of listed non-financial firms in Kenya.

Firm size had a coefficient 0.57 and a probability value of 0.0000 which is significant at 1 percent level of significance. This means that when Firm size grows by 0.57 percent every year returns on assets increases by 1 percent yearly. The null hypothesis that Firm size does not affect financial performance of listed non-financial firms in Kenya is rejected. The findings confirms the results of the study conducted by (Nyarige & Olweny 2014) that Firm size was also found to be positively related to ROA meaning that larger firms report higher profits compared to smaller firms. Similar result for inflation was obtained by Awan (2014) where the study obtained a direct but insignificant relationship with ROE but a significant one with ROA.

H₀₄: Days in accounts receivables do not affect financial performance of listed non-financial firms in Kenya.

Day's account receivables had a coefficient of 0.22 and an insignificant probability value of 0.34. The null hypothesis that Days in accounts receivables do not affect financial performance of listed non-financial firms in Kenya is accepted. These results collaborate with studies conducted by (Nyarige & Olweny 2014) that confirmed AR is not an important determinant of GOP ($p=0.618>0.05$), but has a negative effect on GOP meaning an increase in the AR leads to a decline in GOP. A one day increase in AR is associated with a 0.0913281% decrease in profitability.

This negative relationship is consistent with the cost trade-off theory. Similar findings were reported by Baveld (2012), Joana, Vitorino, & Moreira (2011),

Mogaka and Jagongo (2013), and Nzioki, Kimeli, Abudho, and Nthiwa (2013). A study by Safda and Chaudhry (2012) reported an indirect but significant relationship of profitability. This therefore means that a more restrictive credit policy will improve performance of a firm. The results further reveal the control variable LNSALES has a direct relationship with a firm's performance meaning that a 1% increase in sales leads to 7.941621% increase in GOP. This is true because firms with more sales turnover are more likely to get more credit from banks for expansion and increase in profits because of the effects of sales revenue on profits. Such firms also enjoy economies of scale which adds to their profits. Also there is a positive effect of inflation on performance, a result that also obtained by (Rasheed, 2014). Last year's GOP was found to directly determine this year's GOP which means that a 1% increase in last year's GOP leads to a 15.582% increase in this year's GOP. Although not significant, it has a high effect on GOP as compared to other variables. The intercept is negative at -0.0919019 meaning that when, last year's GOP, AR.

H₀₅ Days in accounts payables does not affect financial performance of listed non-financial firms in Kenya.

Days payable had a coefficient 0.19 and an insignificant probability value of 0.36 therefore we accept the null hypothesis that Days in accounts payables does not affect financial performance of listed non-financial firms in Kenya. The findings are somewhat inconsistent with findings by (Mathuva, 2010). Last year's GOP is found to directly determine this year's GOP as revealed by the positive coefficient (0.1124015) which is interpreted to mean that a 1% increase in last year's GOP leads to an 11.24015% increase in this year's GOP. Despite the fact that the effect is not significant, it has a high effect on GOP as compared to other variables. LNSALES has a direct but insignificant effect on GOP with a coefficient of 0.0874989 meaning that a 1% increase in sales leads to an 8.7499% increase in GOP. Further it means that under high sales level, a firm will make more profits by delaying in paying off their creditors.

Firms will utilize the cash due to the creditors so to increase their production thereby influencing their profitability. Inflation (-0.002491) is indirectly related to the GOP

meaning that a 1% increase in inflation, leads to a 0.249% decrease in profitability. During high inflation, firms will delay their payments to creditors which they reinvest to increase their profitability. This is because firms find it hard to access credit from the banks as interest for such loans will increase in tandem with inflation. Therefore the control variables affect the choice of working capital policy by firms listed at the NSE.

Ho6, leverage, Liquidity, Leverage, firm size, days in accounts receivables and days in accounts payables do not have effect on financial structure of listed non-financial performance.

The intercept (Constant) had a coefficient of -15.8 and a significant probability value of 0.0000 which is significant at 1 percent level of significance. This means that as Liquidity, Leverage, firm size, days in accounts receivables and days in accounts payables jointly decrease by 15.8 percent every year returns on asset increase by 1 percent yearly. The R-squared was 0.68 which means that the independent variables in the model explain the changes in ROA by up to 68 percent.

The Probability F- statistic is 0.0000 which is significant at 5 percent level of significance meaning that the model is stable and acceptable for this study. The Durbin- Watson statistic is 2.3 which is close to 2 meaning there is no serial correlation in the model.

4.4.2 Returns on Equity (ROE)

$$LnROE_{it} = \alpha + \beta_1 LnLQ_{it} + \beta_2 LnFS_{it} + \beta_3 LnLV_{it} + \beta_4 LnDR_{it} + \beta_5 LnDP_{it} + \mu_{it} \quad \dots\dots\dots(4.2)$$

Table 4.13 below shows the results from the Hausman test. The Chi-square test statistic is 9.92 with a significant probability of 0.0774 which is significant at 10 percent level of significance which therefore means that the null hypothesis is rejected in favour of the fixed effects model. Therefore we accept the fixed effects model as suitable for this study.

Table 4.13 Hausman test on ROE

Correlated Random Effects - Hausman Test

Test cross-section random effects

Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random	9.923174	5	0.0774

The Hausman test for return on equity is significant at 10%, implying that the effect of independent variables on the dependent variable is less severe on return on equity than it is on the return on assets. The cross section random effect could have more indirect effect on share capital than it would on the firm's asset.

Table 4.14 below shows the results from the panel estimation output.

Dependent Variable: LN_ROE

Method: Panel Least Squares

Date: 12/27/15 Time: 11:01

Sample: 2009 2013

Periods included: 5

Cross-sections included: 37

Total panel (unbalanced) observations: 157

Variable	Coefficient	Std. Error	t-Statistic	Prob.
LN_DP	0.234414	0.178480	1.313387	0.1917
LN_DR	0.328793	0.199721	1.646261	0.1024
LN_FS	0.299758	0.134649	2.226207	0.0279
LN_LQ	-0.081585	0.117429	-0.694762	0.4886

LN_LV	-0.052998	0.159106	-0.333099	0.7397
C	-9.515884	3.094425	-3.075170	0.0026
Effects Specification				
Cross-section fixed (dummelecty variables)				
R-squared	0.872659	Mean dependent var	-0.861691	
Adjusted R-squared	0.827259	S.D. dependent var	2.016850	
S.E. of regression	0.838246	Akaike info criterion	2.708708	
Sum squared resid	80.80551	Schwarz criterion	3.526303	
Log likelihood	-170.6336	Hannan-Quinn criter.	3.040762	
F-statistic	19.22159	Durbin-Watson stat	1.570695	
Prob(F-statistic)	0.000000			

Equation 3.4 used Returns on equity as a proxy of financial performance of listed non-financial firms in Kenya.

H₀₁: Leverage does not affect financial performance of listed non-financial firms in Kenya.

Leverage had a coefficient of -0.05 and an insignificant probability value of 0.74. Therefore we accept the null hypothesis that Leverage does not affect financial performance of listed non-financial firms in Kenya. The findings further reflect similar results with ROA are addressed above.

H₀₂: Liquidity does not affect financial performance of listed non-financial firms in Kenya.

Liquidity had a coefficient -0.08 and an insignificant probability value of 0.49. The null hypothesis that Liquidity does not affect financial performance of listed non-financial firms in Kenya is accepted. This result is similar with ROA.

H₀₃: Firm size does not affect financial performance of listed non-financial firms in Kenya.

Firm size had a coefficient 0.30 and a probability value of 0.028 which is significant at 5 percent level of significance. This means that when Firm size grows by 0.30 percent every year returns on equity increases by 1 percent yearly. The null hypothesis that Firm size does not affect financial performance of listed non-financial firms in Kenya is rejected. This finding is identical with ROA.

H₀₄: Days in accounts receivables do not affect financial performance of listed non-financial firms in Kenya.

Day's account receivables had a coefficient of 0.33 and an insignificant probability value of 0.102. The null hypothesis that Days in accounts receivables do not affect financial performance of listed non-financial firms in Kenya is accepted.

This is similar outcome with ROA.

H₀₅ Days in accounts payables does not affect financial performance of listed non-financial firms in Kenya.

Days payable had a coefficient 0.23 and an insignificant probability value of 0.19 therefore we accept the null hypothesis that Days in accounts payables does not affect financial performance of listed non-financial firms in Kenya. The outcome is similar with ROA.

H₀₆, leverage, Liquidity, Leverage, firm size, days in accounts receivables and days in accounts payables do not have effect on financial structure of listed non-financial performance.

The intercept (Constant) had a coefficient of -9.52 and a significant probability value of 0.0026 which is significant at 1 percent level of significance. This means that as Liquidity, Leverage, firm size, days in accounts receivables and days in accounts payables jointly decrease by 9.52 percent every year returns on equity increase by 1 percent yearly.

The R-squared was 0.87 which means that the independent variables in the model explain the changes in ROE by up to 87 percent. The 13% remaining is explained by the random variables.

The Probability F- statistic is 0.0000 which is significant at 5 percent level of significance meaning that the model is stable and acceptable for this study.

The Durbin- Watson statistic is 1.6 which is close to 2 meaning there is no serial correlation in the model.

4.5 Pairwise Granger causality

4.5.1 Returns on Assets (ROA)

Table 4.15 Granger causality Test on Returns on Assets (ROA)

Pairwise Granger Causality Tests

Date: 12/27/15 Time: 11:06

Sample: 2009 2013

Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.	Decision	Causality type
LN_AP \neq LN_ROA	131	1.89902	0.1706	DNRH ₀	No Causality
LN_ROA \neq LN_AP		1.36792	0.2443	DNRH ₀	No Causality
LN_DR \neq LN_ROA	135	5.35896	0.0222	Reject H ₀	Bi-directional
LN_ROA \neq LN_AR		5.04704	0.0263	Reject H ₀	Bi-directional
LN_FS \neq LN_ROA	129	0.01831	0.8926	DNRH ₀	No Causality
LN_ROA \neq LN_FS		0.01320	0.9087	DNRH ₀	No Causality
LN_LQ \neq LN_ROA	123	0.06266	0.8028	DNRH ₀	No Causality
LN_ROA \neq LN_LQ		0.50416	0.4791	DNRH ₀	No Causality
LN_LV \neq LN_ROA	120	0.43811	0.5093	DNRH ₀	No Causality
LN_ROA \neq LN_LV		0.00075	0.9782	DNRH ₀	No Causality

Alpha (α) = **0.05**

Decision rule: **reject H₀ if P-value < 0.05**

Key: **DNR = Do not reject;**

\neq : Does not Granger cause

A Bi-directional causal relationship was established between Returns on Assets and Days receivables. No causal relationships were established between day's payables, firm size, leverage, liquidity with returns on assets.

4.5.2 Returns on Equity (ROE)

Pairwise Granger Causality Tests

Date: 12/27/15 Time: 11:26

Sample: 2009 2013

Lags: 1

Null Hypothesis:	Obs	F-Statistic	Prob.	Decision	Causality type
LN_DP \neq LN_ROE	126	2.00627	0.1592	DNRH ₀	Uni-directional
LN_ROE \neq LN_DP		5.86464	0.0169	Reject H ₀	Uni-directional
LN_DR \neq LN_ROE	130	13.2844	0.0004	Reject H ₀	Uni-directional
LN_ROE \neq LN_DR		1.11834	0.2923	DNRH ₀	Uni-directional
LN_FS \neq LN_ROE	129	0.16826	0.6824	DNRH ₀	No Causality
LN_ROE \neq LN_FS		0.08126	0.7761	DNRH ₀	No Causality
LN_LQ \neq LN_ROE	118	0.05665	0.8123	DNRH ₀	No Causality
LN_ROE \neq LN_LQ		0.50921	0.4769	DNRH ₀	No Causality
LN_LV \neq LN_ROE	118	1.41153	0.2373	DNRH ₀	No Causality
LN_ROE \neq LN_LV		0.79799	0.3736	DNRH ₀	No Causality

Alpha (α) = **0.05**

Decision rule: **reject H₀ if P-value < 0.05**

Key: **DNR = Do not reject;**

\neq : **Does not Granger cause**

A unidirectional causal relationship was established running from Returns on equity to Days payable. A unidirectional causal relationship was also established running from Days receivables to Returns on equity. The unidirectional relationship therefore implies that day's payable directly affects return on equity of the firm and therefore creditors' management has direct impact on what the firm pays to equity holders, equally better management of accounts receivables has weight on return on equity.

No causal relationships were established between firm sizes, leverage, and liquidity with Returns on equity. The Causality is insignificant between the firm's size, leverage and liquidity. Meaning that the size of the firm may not necessarily influence the return on equity of the firm. Equally leverage and equity are not likely to change the direction of return on equity either to positive or negative.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This study investigated the effect of Leverage, Liquidity and firm size on financial performance of listed non-financial firms at Nairobi Securities Exchange in Kenya. The independent variables that were studied were, Leverage, Liquidity, firm size, Day's account receivables and Day's account payables. Financial performance indicators that were studied are, Return on Assets (ROA) and return on equity (ROE).

This chapter summarizes the findings of the study and makes conclusions upon which recommendations are drawn. Suggestions for further study are also captured as a way of filling the gaps identified in the study. The study pursued six objectives and six hypotheses upon which conclusions are aligned to. The objectives were:

- To find out the effect of Leverage on financial performance of listed non-financial firms in Kenya
- To assess the extent to which liquidity affects financial performance of listed non-financial firms in Kenya
- To explore the effect of firm size on financial performance of listed non-financial firms in Kenya.
- To establish how days in accounts receivables affect financial performance of listed non-financial firms in Kenya.
- To establish the effect of days in accounts payables affect financial performance of the firm.
- To establish the joint effect of Leverage, Liquidity, firm size, days in accounts receivables and days in accounts payables on financial performance.

5.2 Summary of findings

Evidence from previous studies on whether capital structure mix affects firms financial performance showed that there were mixed results based on the operating environment and the level of mix of long term funding and short term sources of funding. In Kenya the results are also similar to those of developed countries. The study applied panel data over a five year period (2009 to 2013) to examine the effects of Leverage, Liquidity, Firm size, Day's accounts receivables and accounts payables on Returns on Equity and Assets. Regression coefficients were interpreted using the E-views software output. To ensure that enough degrees of freedom in the models to be estimated are available, yearly data covering the entire study period was collected.

The data collection method was secondary research, which essentially involved reviewing data sources that have been collected for some other purpose than the study at hand. Thus, all the relevant data for this study are available in secondary form and the data converted to their natural logs. The data was extracted from the Nairobi Securities Exchange hand books for the period 2009-2013. This was done by use of desk search techniques by visiting the NSE website.

The findings of the study revealed that the joint effect of Leverage, Liquidity, firm size, Days account receivables (AR) and Days accounts payables (AP) influenced the firm's performance positively. These findings were presented in the forms of descriptive statistics. Among the financial performance indicators; Liquidity and firm size had the positive influence on financial performance.

5.2.1 To find out the effect of Leverage on financial performance of listed non-financial firms in Kenya.

The first objective of the study was set to find out the effect of leverage on financial performance of listed non-financial firms in Kenya. The findings revealed that leverage have negative influence on the financial performance of firms in Kenya. This finding is supported by the coefficient of determination which shows that the variations in firm's financial performance are explained by leverage. The effect of

leverage on performance is also statistically insignificant and hence null hypothesis was accepted. Therefore we accept the null hypothesis that Leverage does not affect financial performance of listed non-financial firms in Kenya.

This means that the effect is not by chance. This shows that, on average, non-financial companies used for the study were highly geared. The greatest proportions of their resources were financed by long term debt. The increased access to credit may therefore explain the observed phenomenon on financial leverage.

5.2.2 To assess the extent to which liquidity affects financial performance of listed non –financial firms in Kenya.

The second objective of the study sought to assess the extent to which liquidity affects financial performance of listed non-financial firms in Kenya. Results revealed that liquidity had positive effect on returns on assets and returns on equity in non-financial firms in Kenya. This finding is supported by the coefficient of determination which shows that the variations in firm's financial performance are explained by liquidity. The effect of liquidity on performance is also statistically significant and hence null hypothesis was rejected. Therefore we reject the null hypothesis that Liquidity does not affect financial performance of listed non-financial firms in Kenya.

5.2.3 To explore the effect of firm size on financial performance of listed non-financial firms in Kenya.

The third objective of the study was to explore the effect to which firm size affects financial performance of listed non-financial firms in Kenya. Results showed that firm size had positive effect on returns on assets and returns on equity in non-financial firms in Kenya. The analysis produced a coefficient of determination which shows that the variations in firm's financial performance are explained by firm size. The significance test showed the effect of firm size on performance was statistically significant and hence null hypothesis was rejected. Therefore we reject the null

hypothesis that firm size does not affect financial performance of listed non-financial firms in Kenya.

5.2.4 To establish how days in accounts receivables affect financial performance of listed non-financial firms in Kenya.

The fourth objective of the study sought to establish how days in accounts receivables affect financial performance of listed non-financial firms in Kenya. Findings on the influence of Days in accounts receivables on financial performance showed that variations in day's accounts receivables can be explained by firm financial performance. This finding is further supported by regression results which showed that day's accounts receivables had a negative and insignificant effect on returns on assets and returns on equity in non-financial firms in Kenya.. Therefore we accept the null hypothesis that days in accounts receivables does not affect financial performance of listed non-financial firms in Kenya

5.2.5 To establish the effect of days in accounts payables affect financial performance of the firm

The fifth objective of the study sought to establish the effect of days in accounts payables affect financial performance of listed non-financial firms in Kenya. Findings on the influence of Days in accounts payables on financial performance showed that variations in day's accounts payables can be explained by firm financial performance. This finding is further supported by regression results which showed that day's accounts receivables had a negative and insignificant effect on returns on assets and returns on equity in non-financial firms in Kenya.. Therefore we accept the null hypothesis that Days accounts receivables does not affect financial performance of listed non-financial firms in Kenya

5.2.6 To establish the joint effect of Leverage, Liquidity, firm size, days in accounts receivables and days in accounts payables on financial performance.

The six objective of the study was to establish the joint effect of Leverage, Liquidity, firm Size, Days in accounts receivables and Days in accounts Payables on financial

performance on financial performance of listed non-financial firms in Kenya. Results showed that intercept (constant) had a negative coefficient and a significant probability value. This means that as Liquidity, Leverage, firm size, days in accounts receivables and days in accounts payables jointly decrease every year as returns on asset and equity increase by yearly. The analysis produced a coefficient of determination which shows that the variations in firm's financial performance are explained by the joint effect of Leverage, Liquidity, firm size, Days receivables and Days payables. The significance test showed that the joint effect of Leverage, Liquidity, firm size, Days receivables and Days payables was statistically significant and hence null hypothesis was rejected. Therefore we reject the null hypothesis that the joint effect of Leverage, Liquidity, firm size, days in accounts receivables and days in accounts payables on financial performance does not affect financial performance of listed non-financial firms in Kenya.

5.3 Conclusion

Based on the findings of the study, it can be concluded that Liquidity and firm **size** Influence the financial performance of listed non-financial firms at Nairobi Securities Exchange positively. The overall implication is that access to credit lines was crucial in allowing firms to invest, while effective management of liquidity in the firms is critical since the financial manager can invest in the available financial opportunities and hence increasing its assets base making it easy for the firm to access further credit in case of the need .Expansion of firms growth has a high potential of improving financial performance and hence better returns to the shareholders. Therefore managers should expand their business and invest more through opening of new branches to widen their market share and hence boost the financial performance. Further the results on Leverage has confirmed that leverage does not affect the financial performance of the firms, hence Financial managers should take advantage of available credit and tax shield advantage to enhance the firms performance.

5.4 Recommendations

The recommendations are based on the findings on the objectives of the study.

5.4.1 Leverage and its effects on listed non-financial Firms at Nairobi Securities Exchange in Kenya

Financial Managers should not worry about leverage since it has been proved that leverage does not affect the financial performance of the company. The study recommends that managers should go for an aggressive credit policy to maximize the use of debt in capital spending activity so as to improve the financial performance of the firm. An appropriate mix of capital structure should be adopted in order to increase the profitability of firms. Findings revealed that debt is negatively correlated to profitability of listed firms in Kenya. As such in the case of higher debt, profitability will tend to decline. The reason behind this may be due to the high interest bearing securities engaged in debt. In addition to this an increase in the level of debt also increases the riskiness of banks. Therefore, firms should depend a lot on internal sources of financing in order to increase their profitability

5.4.2 Liquidity and its effects on listed non-financial Firms at Nairobi Securities Exchange in Kenya

Liquidity relationship with performance is a positive one hence managers should increase the levels of liquidity to take advantage of the firms return. Since the liquidity of a firm is a function of the amount of funds the firm can raise in a certain time and at specific cost, the sooner a firm can raise a given amount of funds in a certain period of time the more liquid it will be and this will improve performance firms also has to take into consideration local and national factors such as the type, sources and stability of deposit which are primary factors for the local level.

5.4.3 Firm size and its effects on listed non-financial Firms at Nairobi Securities Exchange in Kenya

The relationship with financial performance (ROA) and ROE was established to be negative relationship. Hence it is recommended that Managers of the firms to decrease in over investment through the expansion programs but efforts be made by management to increase the value of the company through other means like the funding policy, the provision of incentives to managers in the form of bonus shares, and improvement of existing facilities and upgrading of ICT in order to improve company performance.

5.4.4 Days accounts Receivables (AR) and its effects on listed non-financial Firms at Nairobi Securities Exchange in Kenya

The findings on Days account receivables (AR) show negative effect on financial performance of the firm hence the financial manager should extend credit terms to their customers in order to have high sales turn over to ensure maximum utilization of the production line.

5.4.5 Days accounts Payables (PA) and its effects on listed non-financial Firms at Nairobi Securities Exchange in Kenya

The results on Days account payables show negative influence on firm's performance hence the Financial Manager should extent the repayment period to retains the funds in the firm so as to utilize the cash on other financial investment, as long as this is done without putting strain on the relationship with the firms suppliers.

5.4.6 To establish the Joint effect of Leverage, Liquidity, firm size, days in accounts receivables and days in accounts payables on financial performance.

The results on the joint effect of Leverage, Liquidity, firm size, days in accounts receivables and days in accounts payables on financial performance show that there is a need to balance the components of the capital structure so as to obtain the

optimal mix which will yield maximum growth to the firm and returns to the shareholders.

5.5 Suggestions for further Studies

This study did not include all financial measurements such as Age of the firm, Cash flow holdings, working capital and their effect on the financial performance of listed non-financial firms. Further studies can be conducted with all these variables to test the significance of the above variables both on the return on equity and return on assets of the firms.

A more detailed study can be conducted on individual economic segments: Agriculture sector; Automobiles and Accessories; Commercial and Services; Construction and Allied Sector; Investment; Manufacturing and Allied; Telecommunication and Technology since this study covered all list non-financial firms at Nairobi Securities Exchange.

A longitudinal study may also be carried out to determine the effect of capital structure speed and cost changes on the return on equity and return on assets. This may require the use of various statistical approaches such as E-garch, Vector Auto regression among others.

Similar studies may also be replicated in the sub Saharan countries to explore further the effects of leverage and liquidity on a firms performance with firm size as the control variable.

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Appendix 1: Listed Non-financial Firms on the Nairobi Securities Exchange

AGRICULTURAL

Eaagads Ltd

Kapchorua Tea Co. Ltd

Kakuzi

Limuru Tea Co. Ltd

Rea Vipingo Plantations Ltd

Sasini Ltd

Williamson Tea Kenya Ltd

COMMERCIAL AND SERVICES

Express Ltd

Kenya Airways Ltd

Nation Media Group

Standard Group Ltd

TPS Eastern Africa (Serena)

Scangroup Ltd

Uchumi Supermarket Ltd

Hutchings Biemer Ltd

Longhorn Kenya Ltd

TELECOMMUNICATION AND TECHNOLOGY

Access Kenya Group Ltd

Safaricom Ltd

AUTOMOBILES AND ACCESSORIES

Car and General (K) Ltd

CMC Holdings Ltd

Sameer Africa Ltd

Marshalls (E.A.) Ltd

INVESTMENT

City Trust Ltd

Olympia Capital Holdings ltd

Centum Investment Co Ltd

Trans-Century Ltd

MANUFACTURING AND ALLIED

B.O.C Kenya Ltd

British American Tobacco Kenya Ltd

Carbacid Investments Ltd

East African Breweries Ltd

Mumias Sugar Co. Ltd

Unga Group Ltd

Eveready East Africa Ltd

CONSTRUCTION AND ALLIED

Athi River Mining

Bamburi Cement Ltd

Crown Berger Ltd

E.A. Cables Ltd

E.A. Portland Cement Ltd

ENERGY AND PETROLEUM

Kenol Kobil Ltd

Total Kenya Ltd

Ken Gen Ltd

Kenya Power & Lighting Co Ltd103

(Source: NSE Hand book 2013- 2014)

Appendix 2: Market Price To Book Ratio: Market Capitalization/Net Asset Value

S/N	NAME	YEARS				
		2013	2012	2011	2010	2009
1	Eaagads ltd	0.86	0.95	1.58	1.05	1.11
2	Kakuzi Ltd	1.13	0.96	0.89	0.78	0.7
3	Kapchurua Tea	0.07	0.07	0.09	0.1	0.14
4	Kenya Orchards ltd	–	–	–	–	–
5	Limuru Tea Ltd	1.64	1.61	2.1	2.27	3.14
6	Rea Vipingo Ltd	0.59	0.43	0.39	0.63	0.47
7	Sisan Tea & Coffee ltd	0.34	0.3	0.31	0.36	0.18
8	Williamson Tea limited	0.31	0.28	0.27	0.36	0.1
9	Car & General Ltd	0.18	0.14	0.13	0.18	0.22
10	CMC Holdings ltd	0.64	0.44	0.23	0.12	0.09
11	Marshal(EA) ltd	0.36	0.31	0.19	0.24	0.24
12	Sameer Africa ltd	0.5	0.37	0.33	0.32	0.32
13	Express Kenya ltd	0.34	0.25	0.18	0.21	0.22
14	Kenya Airways Ltd	0.06	0.08	0.19	0.38	0.25
15	Longhorn Kenya ltd	2.35	2.27	1.97	2.3	2.23
16	Nation Media Group	3.14	3.27	2.49	3.29	2.56
17	Scan Media Group	1.73	2.27	1.39	1.82	1.43
18	Standard Group	0.61	0.59	0.53	1.02	0.93
19	Tps Eastern African Group	0.46	0.43	0.62	0.85	0.68
20	Uchumi Super Market	0.05	0.05	0.07	0.06	0.68
21	Arthi River Mining Group	0.98	0.82	0.76	1.09	0.91
22	Bambui Cement Ltd	1.25	1.13	1.22	0.95	0.89
23	Crown Paints Ltd	3.6	3.76	3.43	3	1.7
24	East African Cables ltd	0.37	0.47	0.53	0.73	1.16
25	East African portland ltd	0.33	0.37	0.38	0.41	0.34
26	KenoKobil Lid	0.65	0.61	0.32	0.48	0.25

27	Kengen	0.1	0.12	0.19	0.25	0.29
28	KPL	0.18	0.23	0.18	0.24	0.27
29	Total Kenya	0.06	0.07	0.07	0.17	0.16
30	Umeme	-	-	-	-	-
31	ICDCI	-	-	-	-	-
32	Olympia C. Holdings ltd	0.14	0.08	0.19	0.2	0.24
33	Transcentury Ltd	0.18	0.18	0.15	0.19	0.27
34	Boc Kenya Ltd	1.04	0.97	1.27	1	0.8
35	British American Tobacco Ltd	0.46	0.42	0.81	0.9	0.36
36	Carbacid Investments Ltd	2.31	2.11	1.79	3.5	2.54
37	East African Breweries	0.25	0.25	0.16	0.21	0.42
38	Eveready East Kenya Ltd	0.84	0.62	0.69	0.58	0.69
39	Mumias Sugar Company Ltd	0.28	0.26	0.47	1.07	1.1
40	Unga Group Ltd	0.37	0.33	0.38	0.38	0.32
41	Safaricom Ltd	1.21	1.35	1.35	2.14	1.31
42	Home Africa ltd	-	-	-	-	-

YEAR		2013	2012	2011	2010	2009	
P/RATIO:	ROA	<u>Net income (Profit After Tax).</u>					
S/N	Name of Listed Company	Total Assets					
1	Eaagads ltd	-0.13	0.04	0.21	0.12	0.12	
2	Kakuzi Ltd	0.05	0.12	0.19	18.39	0.19	
3	Kapchurua Tea	0.11	0.05	0.14	0.13	0.07	
4	Kenya Orchards ltd	0.02	0.00	0.01	0.01	-0.05	
5	Limuru Tea Ltd	0.04	0.21	0.05	0.12	0.12	
6	Rea Vipingo Ltd	17.17	0.18	0.25	0.08	0.13	
7	Sisan Tea & Coffee ltd	1.10	-1.49	0.05	0.12	0.07	
8	Williamson Tea limited	0.12	0.14	0.17	0.20	0.06	
9	Car & General Ltd	0.05	0.05	0.05	0.06	0.06	
10	CMC Holdings ltd	-	-	-	-	-	
11	Marshal(EA) ltd	0.05	0.05	0.05	0.06	0.06	
12	Sameer Africa ltd	0.15	0.08	0.04	0.03	0.07	
13	Express Kenya ltd	0.00	0.04	-0.64	-3.59	0.02	
14	Kenya Airways Ltd	-10.94	0.03	0.06	0.04	-0.08	

15	Longhorn Kenya ltd	0.14	-0.03	0.18	0.04	0.05
16	Nation Media Group	0.22	0.24	0.23	0.20	0.17
17	Scangroup	0.07	0.09	0.11	0.08	0.10
18	Standard Group	0.05	0.05	4.20	8.46	0.09
19	Tps Eastern African Group	0.04	0.04	0.05	0.04	0.05
20	Uchumi Super Market	0.06	0.06	0.10	0.27	0.20
21	Arthi River Mining Group	0.06	0.07	0.07	0.09	0.07
22	Bambui Cement Ltd	0.14	0.18	0.29	0.16	0.36
23	Crown Paints Ltd	0.07	0.06	0.06	0.05	0.05
24	East African Cables ltd	0.06	0.08	0.06	0.04	0.08
25	East African portland ltd	0.11	-0.07	0.00	-0.02	0.15
26	KenoKobil Lid	0.02	0.00	0.07	0.06	0.07
27	Kengen	0.03	0.02	0.01	0.02	0.02
28	KPL	0.02	0.03	0.03	0.04	0.05
29	Total Kenya	0.03	-0.01	0.00	0.03	0.02
30	Umeme	0.16	0.13	-	-	-
31	ICDCI	0.10	0.13	0.10	0.19	0.13
32	Olympia C. Holdings ltd	0.22	0.01	0.02	0.01	0.00
33	Transcentury Ltd	0.03	0.03	0.03	0.04	0.03

34	Boc Kenya ltd	0.08	0.10	0.08	0.04	0.08
35	British American Tobacco ltd	0.36	0.36	0.37	0.25	0.24
36	Carbacid Investments ltd	0.22	0.21	0.18	0.21	0.20
37	East African Breweries	0.22	0.35	0.27	0.33	0.33
38	Eveready East Kenya ltd	0.05	0.06	0.07	-0.12	0.01
39	Mumias Sugar Company ltd	-0.09	0.09	0.10	0.11	0.12
40	Unga Group Ltd	0.06	0.05	0.07	0.05	0.03
41	Safaricom Ltd	0.69	0.60	0.61	0.67	0.60
42	Home Africa ltd	0.17	0.21	-	-	-

Appendix 3 Return on Assets (Net income (profit After Tax)/ Total Assets

YEAR		2013	2012	2011	2010	2009
P/RATIO:	ROA	<u>Net income (Profit After Tax).</u>				
S/N	Name of Listed Company	Total Assets				
1	Eaagads ltd	41,864	21,805	71,784	62,520	11,838
2	Kakuzi Ltd	489,560	408,656	644,397	388,666	388,586
3	Kapchurua Tea	1,797,180	779,680	187,005	138,252	69,908
4	Kenya Orchards ltd					
5	Limuru Tea Ltd	13,170	101,834	40,484	74,840	26,969
6	Rea Vipingo Ltd	442,000	380,433	467,196	67,355	148,949
7	Sisan Tea & Coffee ltd	91,000	-124,113	450,347	993,729	533,032
8	Williamson Tea limited	740,721	854,740	-409,305	876,055	109,870
9	Car & General Ltd	458,696	266,556	288,706	238,234	197,984
10	CMC Holdings ltd	128,533	105,355	-181,146	406,671	539,609
11	Marshal(EA) ltd	13,462	-165,527	181,501	-344,722	-117,479
12	Sameer Africa ltd	401,000	189,755	96,948	57,396	158,005
13	Express Kenya ltd	95,000	13,028	-229,088	-28,091	15,070
14	Kenya Airways Ltd	-7,864,000	1,660,000	3,538,000	2,035,000	-4,083,000

15	Longhorn Kenya ltd	130,200	-22,465	-13,958	5,818	2,006
16	Nation Media Group	3,600,000	2,510,300	1,203,300	1,538,400	1,119,200
17	Scangroup	867,358	752,009	911,116	640,585	401,148
18	Standard Group	139,000	183,307	147,345	279,784	263,384
19	141,077	293,588	615,891	516,384	380,675	
20	Uchumi Super Market	141,077	293,588	615,891	516,384	380,675
21	1,300,000	1,245,638	1,150,498	1,075,263	645,774	
22	Bambui Cement Ltd	3,903,000	4,882,000	5,859,000	5,299,000	6,970,000
23	Crown Paints Ltd	121,876	133,543	129,002	91,417	86,308
24	East African Cables ltd	341,149	522,066	314,730	183,850	296,033
25	386,631	-821,486	1,717	284,051	1,834,054	
26	KenoKobil Lid	531,000	-628,475	3,273,831	1,915,045	1,294,505
27	Kengen	5,200,000	2,822,600	2,080,121	3,286,487	2,070,913
28	KPL	4,352,000	4,617,116	4,219,566	3,716,370	3,225,094
29	Total Kenya	283,000	-202,142	-71,436	916,205	482,585
30	Umeme	85,667,000	57,110,000	0	0	0
31	ICDCI	3,055,000	1,189,405	2,292,383	1,093,757	313,180
32	Olympia C. Holdings ltd	45,000	42,860	35,139	0	0
33	Transcentury Ltd	626,400	740,647	616,100	468,262	234,497

34	Boc Kenya ltd	286,692	197,374	150,604	79,337	153,907
35	4,199,000	3,270,302	4,484,116	2,722,572	2,108,964	
36	490,641	389,287	302,195	307,392	256,377	
37	East African Brewaries	6,900,000	11,186,113	9,023,660	8,837,560	8,262,464
38	177,589	70,084	-123,994	8,703	28,271	
39	2,077,000	2,012,679	1,933,225	1,572,383	1,609,922	
40	Unga Group Ltd	210,600	348,195	441,043	236,173	185,192
41	Safaricom Ltd	17,500,000	12,627,607	13,158,973	15,148,038	10,536,760
42	Home Africa ltd	110,000	151,377	109,084	7,951	147,909

Listed Companies						
S/N	Name	2013	2012	2011	2010	2009
		WC	WC	WC	WC	WC
1	Eaagads Ltd	10,976	80,457	72,199	34,431	34,431
2	Kakuzi Ltd	1,023,474	1,091,450	823,488	411,891	205,283
3	Kapchurua Tea	434,392	265,295	301,849	265,144	141,070
4	Kenya Orchards Ltd	10,968,436	9,139,095	7,697,864	5,520,548	3,502,951
5	Limuru Tea Ltd	80,457	72,199	35,637	34,431	34,431
6	Rea Vipingo Ltd	820,224	621,572	468,910	149,642	491,278,112
7	Sisan Tea & Coffee Ltd	563,794	524,243	659,798	708,611	633,650
8	Williamson Tea Limited	1,945,745	1,430,020	1,639,383	981,093	313,610
9	Car & General Ltd	421,988	468,716	382,743	638,626	509,963
10	CMC Holdings ltd					
11	Marshal(EA) ltd	-73,333	22,636	-490,383	-286,456	-71,180
12	Sameer Africa ltd					
13	Express Kenya ltd	-57,988	-97,506	-271,816	-380,859	-347,965
14	Kenya Airways Ltd	-22,233,000	-1,923,000	1,408,000	-2,720,000	-2,013,000

15	Longhorn Kenya ltd	185,171	46,954	228,686	179,579	153,102
16	Nation Media Group	4,738	4,032	3,324	2,524	1,996
17	Scan Media Group	6,369,053	4,191,106	3,980,988	2,877,409	1,658,139
18	Standard Group	221,926	129,569	93,164	333,615	230,832
19	Tps Eastern African Group	129,129	24,316	799,633	678,017	534,246
20	Uchumi Super Market					
21	Arthi River Mining Group	-398,022	1,433,570	-696,832	1,033,602	8,984
22	Bambui Cement Ltd	37,035,000	9,451,000	8,259,000	5,399,000	7,829,000
23	Crown Paints Ltd	598,555	554,535	497,317	488,288	402,517
24	East African Cables ltd	837,076	499,213	333,192	396,324	452,072
25	East African portland ltd	282,585	56,853	982,153	1,075,030	1,618,653
26	KenoKobil Lid	-1,357,085	-800,435	7,351,685	7,134,073	5,830,879
27	Kengen	7,455,182	7,287,109	8,282,372	25,879,572	7,001,936
28	KPL	47,405,675	43,511,553	39,606,376	28,740,877	26,848,063
29	Total Kenya	6,516,519	5,373,717	2,304,767	2,881,365	2,202,665
30	Umeme	24,722,000	18,957,000			
31	ICDCI	-7,408,788	-3,556,217	-167,970	-2,495,283	102,686
32	Olympia C. Holdings ltd	28,013	127,521	52,886	387,443	469,427
33	Transcentury Ltd	2,877,105	1,663,617	1,734,542	1,523,195	1,647,018

34	Boc Kenya ltd	667,493	564,742	431,292	594,897	602,934
35	British American Tobacco ltd	1,737,170	1,077,148	1,639,085	697,636	-89,349
36	Carbacid Investments ltd	803,645	489,222	358,415	318,547	640,558
37	East African Brewaries	-8,013,743	-4,426,009	-1,653,942	5,674,483	6,516,414
38	Eveready East Kenya ltd	239,952	180,279	75,281	274,564	267,078
39	Mumias Sugar Company ltd	-1,348,833	1,450,705	3,549,968	3,245,813	1,351,593
40	Unga Group Ltd	2,668,868	2,676,938	2,467,821	2,075,474	1,747,845
41	Safaricom Ltd	-11,235,005	-16,421,705	-12,416,430	-11,249,325	-18,258,138
42	Home Africa ltd	20,545,986	52,630,049			

Listed Companies						
S/N	Name	2013	2012	2011	2010	2009
		Leverage	Leverage	Leverage	Leverage	Leverage
1	Eaagads Ltd	0.124971	0.160297	0.249644	0.095589	0.252249
2	Kakuzi Ltd	0.218831	0.210415	0.277827	0.313207	0.342803
3	Kapchurua Tea	0.506701	0.317286	0.128717	0.34872	0.329421
4	Kenya Orchards Ltd					
5	Limuru Tea Ltd	0.234028	0.243073	0.21717	0.246221	0.340012
6	Rea Vipingo Ltd	0.250787	0.27538	0.358223	0.420568	0.310189
7	Williamson Tea Limited	0.269908	0.190894	0.291992	0.34872	0.329421
8	Car & General Ltd	0.63715	0.624364	0.654757	0.595975	0.592648
9	CMC Holdings Ltd	0.525345	0.510064	0.647068	0.628096	0.603319
11	Marshal(EA) Ltd	0.452945	0.30853	0.625238	0.882337	0.669286
12	Sameer Africa Ltd	0.269559	0.315599	0.280077	0.297652	0.240505
13	Express Kenya Ltd	0.690932	0.599912	0.797501	0.713526	0.68373
14	Kenya Airways Ltd	0.775495	0.748005	0.706095	0.727379	0.773938

15.						
16	Nation Media Group	0.279736	0.314112	0.305559	0.32013	0.282804
17	Scan Media Group	0.336074	0.43337	1	0.553301	0.39839
18	Standard Group	0.561031	0.539713	0.529059	0.535457	0.580079
19	Tps Eastern African Group	0.000384	0.000172	387.1518	0.371274	0.419057
20	Uchumi Super Market	0.475124	0.462187	0.43088	0.511994	1
21	Arthi River Mining Group	0.723156	0.735818	0.703026	0.719672	0.659921
22	Bambui Cement Ltd	0.268877	0.282936	0.243956	0.350688	0.347876
23	Crown Paints Ltd	0.537686	0.479156	0.524942	0.5425	0.947343
24	East African Cables ltd	0.549652	0.531894	0.544599	0.397412	0.479529
25	East African Portland ltd	0.556674	0.656562	0.537173	0.526383	0.49271
26	KenoKobil Lid	0.762948	0.802788	0.746588	0.630947	0.666416
27	Kengen	0.607105	0.569833	0.568811	0.531565	0.903286
28	KPL	0.6416	0.583516	0.668473	0.661975	0.619976
29	Total Kenya	0.615371	0.569666	0.739622	0.684621	0.71574
30	Umeme					
31	ICDCI	0.116175	0.131959	0.222914	0.048426	0.084083
32	Olympia C. Holdings ltd	0.43409	0.428342	0.39747	0.386129	0.292247
33	Transcentury Ltd	0.445544	0.447234	0.472342	0.528905	0.597193

34	Boc Kenya Ltd	0.211551	0.270722	0.268742	0.261641	0.24264
35	British American Tobacco Ltd	0.742011	0.715336	0.525469	0.538655	0.588562
36	Carbacid Investments Ltd	0.127005	0.178877	0.15668	0.144435	0.151692
37	East African Breweries	0.742011	0.715336	0.667311	0.541139	0.110806
38	Eveready East Kenya Ltd	0.580323	0.471956	0.723598	0.66266	0.604383
39	Mumias Sugar Company Ltd	0.41955	0.315553	0.271358	0.277964	0.351525
40	Unga Group Ltd	0.458464	0.377682	0.344015	0.335619	0.322966
41	Safaricom Ltd	0.377076	0.308614	0.293353	0.324149	0.442126
42	Home Africa Ltd					

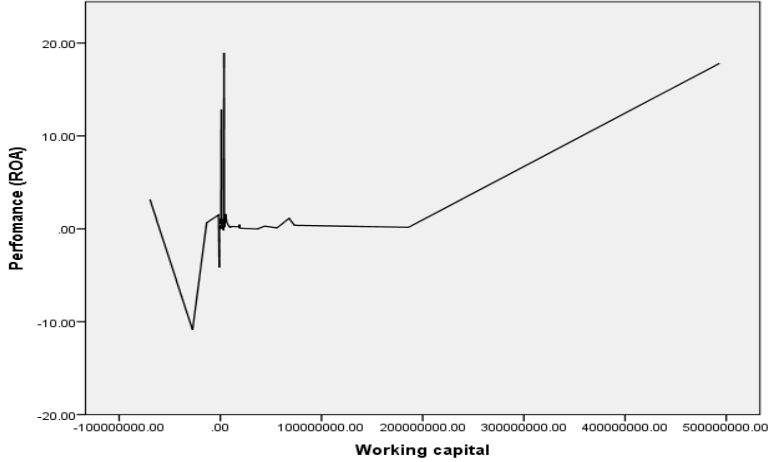
Appendix 4: Cross Tabulation Descriptive Results: Working Capital Vs Financial Performance

YEAR		2009		2010		2011		2012		2013	
P/RATIO:	WC: ROA	WC	ROA	WC	ROA	WC	ROA	WC	ROA	WC	ROA
s/n	Name of Listed Company										
1	Eaagads ltd	0.24	11.81%	0.24	11.81%	0.41	21.09%	0.11	3.83%	-0.02	12.78%
2	Kakuzi Ltd	0.38	19.35%	0.34	18.39%	0.34	18.59%	0.22	11.92%	0.13	4.62%
3	Kapchurua Tea	0.15	7.27%	0.26	12.83%	0.27	14.42%	0.14	5.18%	0.22	10.63%
4	Kenya Orchards ltd	-0.06	-5.22%	0.11	1.01%	0.01	1.26%	0.16	0.43%	0.19	1.64%
5	Limuru Tea Ltd	0.24	11.81%	0.24	11.81%	0.13	4.66%	0.41	21%	0.14	3.83%
6	Rea Vipingo Ltd	0.25	12.52%	0.16	8.18%	0.62	25%	0.29	17.95%	0.29	17.17%
7	Sisan Tea & Coffee ltd	0.08	7.02%	0.24	11.63%	0.074	5.07%	0.01	-1.49	0.07	1.1
8	Williamson Tea limited	0.17	5.89%	0.22	20%	0.27	16.54%	0.23	13.72%	0.24	11.75%
9	Car & General Ltd	0.16	6.17%	0.47	6.15%	0.06	5.19%	0.08	4.67%	0.06	4.57%
10	CMC Holdings ltd	-	-	-	-	-	-	-	-	-	-
11	Marshal(EA) ltd	0.08	6.17%	-0.34	6.15%	-0.55	5.19%	0.06	4.67%	-0.2	4.57%
12	Sameer Africa ltd	-	6.92%	-	2.64%	-	4.30%	-	8.09%	-	14.97%

13	Express Kenya ltd	-0.43	1.87%	-0.49	-3.59	-0.76	-64.11%	0.19	3.89%	-0.18	0.07%
14	Kenya Airways Ltd	-0.04	-7.52%	-0.05	3.86%	0.02	6.26%	-0.04	3.09%	0.031	-10.94
15	Longhorn Kenya ltd	0.35	4.67%	0.34	4.13%	0.32	18%	0.07	-3.40%	0.27	13.71%
16	Nation Media Group	0.42	17.03%	0.47	19.89%	0.53	22.76%	0.54	23.51%	0.57	22.13%
17	Scan group	0.42	10.20%	0.36	7.99%	0.47	10.73%	0.24	8.99%	0.49	6.70%
18	Standard Group	0.11	8.76%	0.15	8.46	0.04	4.2	0.05	5.23%	0.08	4.58%
19	Tps Eastern African Group	0.09	5.44%	0.07	4.33%	0.07	4.69%	-0.03	3.67%	-0.03	4.12%
20	Uchumi Super Market	0.25	19.90%	0.48	27.43%	0.56	9.75%	0.54	5.54%	0.52	6.41%
21	Arthi River Mining Group	0.13	7.36%	0.18	8.72%	0.02	6.85%	0.11	6.55%	0.12	5.90%
22	Bamburi Cement Ltd	0.24	36.04%	0.16	15.91%	0.25	29.08%	0.21	18.40%	0.53	13.61%
23	Crown Paints Ltd	0.22	4.64%	0.25	4.63%	0.22	5.82%	0.25	5.91%	0.2	7.26%
24	East African Cables ltd	0.13	8.35%	0.09	4.07%	0.07	6.30%	0.08	8.35%	0.12	5.85%
25	East African Portland ltd	0.09	15.24%	0.09	-2.35%	0.07	0.01%	-0.04	-6.95%	0.02	11%
26	KenoKobil Lid	0.20	6.57%	0.23	6.30%	0.16	7.12%	-0.2	-0.19%	-0.05	1.98%
27	KenGen	0.06	1.83%	0.20	2.18%	0.05	1.29%	0.04	1.73%	0.04	2.78%
28	KPL	1.61	4.56%	1.51	4.37%	1.48	3.48%	1.48	3.44%	1.36	2.46%
29	Total Kenya	0.37	1.53%	0.09	3.02%	0.07	-0.20%	0.23	-0.61%	0.20	3.28%
30	Umeme	-	-	-	-	-	-	0.04	12.65%	0.05	16.43%

31	ICDCI	0.01	13.25%	-0.04	18.63%	-0.01	10.28%	0.03	13.23%	-0.09	10.32%
32	Olympia C. Holdings ltd	0.30	0.36%	0.23	0.98%	0.36	1.77%	0.19	0.91%	0.05	22.24%
33	Transcentury Ltd	0.19	2.68%	0.14	4.17%	0.08	2.74%	0.08	3.39%	0.12	2.63%
34	Boc Kenya ltd	0.30	7.74%	0.30	3.92%	0.24	8.29%	0.45	9.92%	0.25	7.70%
35	British American Tobacco ltd	-0.01	23.77%	0.10	25.19%	0.19	36.83%	0.12	35.85%	0.17	36.49%
36	Carbacid Investments ltd	0.48	19.57%	0.22	21.26%	0.21	17.84%	0.26	20.90%	0.38	22.47%
37	East African Breweries	0.26	32.99%	0.21	33.31%	0.22	26.53%	0.29	34.85%	0.15	21.74%
38	Eveready East Kenya ltd	0.27	1.23%	0.23	-12.19%	0.07	7.12%	0.16	6.09%	0.25	4.83%
39	Mumias Sugar Company ltd	0.10	11.74%	0.22	10.61%	0.20	9.68%	0.07	9.28%	-0.07	-8.91%
40	Unga Group Ltd	0.31	3.33%	0.41	4.66%	0.43	7.12%	0.42	5.43%	0.32	6.10%
41	Safaricom Ltd	1.04	60.20%	1.06	67.11%	1.05	60.64%	1.01	59.58%	1.92	69.00%
42	Home Africa ltd	-	-	-	-	-	-	1.50	21.30%	1.43	16.83%

Graph1 Relationship between W/C and ROA



Graph 4.1: Working Capital Vs Financial Performance

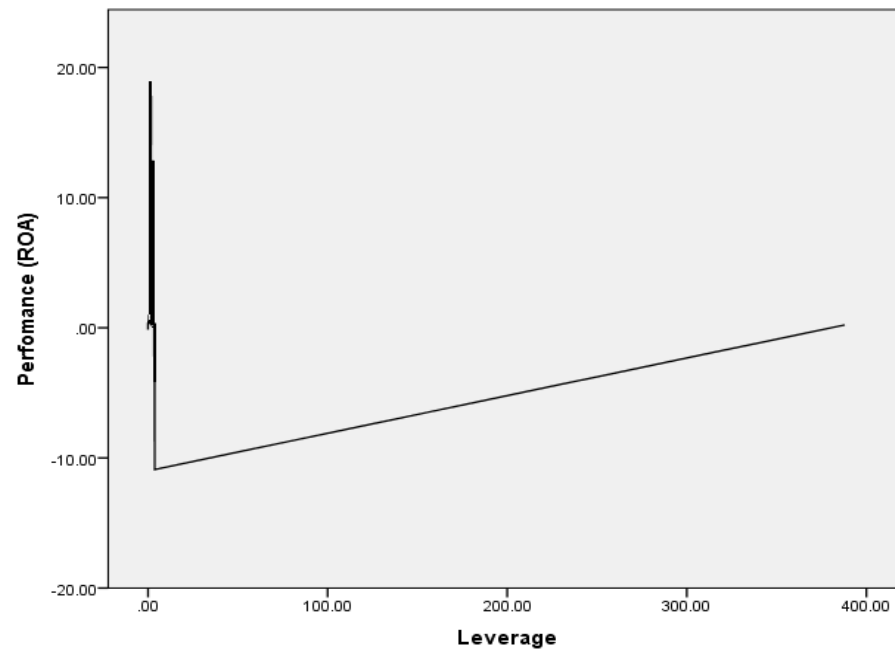
Cross Tabulation Descriptive Results: Leverage Vs Financial Performance

Table 4.5											
YEAR		2009		2010		2011		2012		2013	
RATIO ANALYSIS:	LEV: ROA	LEV	ROA	LEV	ROA	LEV	ROA	LEV	ROA	LEV	ROA
S/N	Name of Listed Company										
1	Eaagads ltd	0.40	11.81%	0.40	11.81%	0.55	21.09%	0.22	3.83%	0.25	-12.78%
2	Kakuzi Ltd	0.35	19.35%	0.32	18.39%	0.29	18.59%	0.26	11.92%	0.26	4.62%
3	Kapchurua Tea	0.30	7.27%	0.07	12.83%	0.07	14.42%	0.05	5.18%	0.05	10.63%
4	Kenya Orchards ltd	1.00	-5.22%	1.00	1.01%	1.00	1.26%	1.00	0.43%	1.00	1.64%
5	Limuru Tea Ltd	0.30	11.81%	0.30	11.81%	0.31	4.66%	0.28	21%	0.18	3.83%
6	Rea Vipingo Ltd	0.22	12.52%	0.28	8.18%	0.27	25%	0.23	17.95%	0.23	17.17%
7	Sisan Tea & Coffee ltd	0.35	7.02%	0.32	11.63%	0.32	5.07%	0.31	-1.49	0.31	1.10%
8	Williamson Tea limited	8.35	5.89%	8.25	20%	8.00	16.54%	7.73	13.72%	17.40	11.75%
9	Car & General Ltd	0.17	6.17%	0.18	6.15%	0.28	5.19%	0.30	4.67%	0.25	4.57%
10	CMC Holdings ltd	-	-	-	-	-	-	-	-	-	-
11	Marshal(EA) ltd	0.69	6.17%	3.19	6.15%	1.24	5.19%	1.24	4.67%	0.04	4.57%
12	Sameer Africa ltd	-	-	-	-	0.12	4.30%	0.01	8.09%	0.01	14.97%

13	Express Kenya ltd	0.95	1.87%	1.03	-3.59	1.30	-64.11%	0.68	3.89%	0.60	0.07%
14	Kenya Airways Ltd	1.31	-7.52%	1.35	3.86%	1.58	6.26%	1.99	3.09%	1.33	-10.94
15	Longhorn Kenya ltd	2.52	4.67%	3.43	4.13%	5.09	18%	0.07	-3.40%	0.05	13.71%
16	Nation Media Group	0.02	17.03%	0.02	19.89%	0.02	22.76%	0.02	23.51%	0.01	22.13%
17	Scangroup	0.03	10.20%	0.05	7.99%	0.07	10.73%	0.06	8.99%	0.04	6.70%
18	Standard Group	0.92	8.76%	0.60	8.46%	0.47	4.20%	1.21	5.23%	1.53	4.58%
19	Tps Eastern African Group	0.48	5.44%	0.37	4.33%	0.44	4.69%	0.40	3.67%	0.29	4.12%
20	Uchumi Super Market	-0.01	19.90%	-0.01	27.43%	0.01	9.75%	0.01	5.54%	0.02	6.41%
21	Arthi River Mining Group	1.13	7.36%	1.70	8.72%	1.70	6.85%	1.67	6.55%	1.75	5.90%
22	Bamburi Cement Ltd	0.30	36.04%	0.20	15.91%	0.18	29.08%	0.17	18.40%	0.18	13.61%
23	Crown Paints Ltd	0.82	4.64%	0.65	4.63%	0.77	5.82%	0.40	5.91%	0.13	7.26%
24	East African Cables ltd	0.38	8.35%	0.38	4.07%	0.28	6.30%	0.27	8.35%	0.32	5.85%
25	East African portland ltd	0.72	15.24%	0.78	-2.35%	1.02	0.01%	1.52	-6.95%	0.81	11%
26	KenoKobil Lid	0.03	6.57%	0.03	6.30%	0.13	7.12%	0.14	-0.19%	0.11	1.98%
27	KenGen	0.60	1.83%	1.04	2.18%	1.16	1.29%	1.11	1.73%	1.31	2.78%
28	KPL	1.63	4.56%	1.95	4.37%	2.06	3.48%	2.08	3.44%	2.74	2.46%
29	Total Kenya	0.44	1.53%	0.40	3.02%	0.33	-0.20%	0.06	-0.61%	0.07	3.28%
30	Umeme	-	-	-	-	-	-	0.78	12.65%	0.89	16.43%
31	ICDCI	0.11	13.25%	0.20	18.63%	0.10	10.28%	0.30	13.23%	0.27	10.32%

32	Olympia C. Holdings ltd	1.99	0.36%	1.77	0.98%	0.21	1.77%	0.24	0.91%	0.53	22.24%
33	Transcentury Ltd	0.79	2.68%	0.64	4.17%	1.22	2.74%	0.12	3.39%	1.22	2.63%
34	Boc Kenya ltd	0.89	7.74%	0.98	3.92%	0.30	8.29%	1.13	9.92%	0.13	7.70%
35	British American Tobacco ltd	0.13	23.77%	0.37	25.19%	0.03	36.83%	0.28	35.85%	0.35	36.49%
36	Carbacid Investments ltd	0.12	19.57%	0.12	21.26%	0.14	17.84%	0.13	20.90%	0.10	22.47%
37	East African Breweries	0.12	32.99%	0.11	33.31%	0.27	26.53%	2.68	34.85%	2.79	21.74%
38	Eveready East Kenya ltd	0.19	1.23%	0.31	-12.19%	0.28	7.12%	1.99	6.09%	1.12	4.83%
39	Mumias Sugar Company ltd	0.37	11.74%	0.37	10.61%	0.20	9.68%	0.38	9.28%	0.41	-8.91%
40	Unga Group Ltd	0.11	3.33%	0.11	4.66%	0.09	7.12%	0.11	5.43%	0.14	6.10%
41	Safaricom Ltd	0.09	60.20%	0.13	67.11%	0.18	60.64%	0.17	59.58%	0.15	69.00%
42	Home Africa ltd	-	-	-	-	-	-	0.07	21.30%	0.06	16.83%

Graph 4.2 Leverage Vs Financial Performance



Graph 2: Relationship between LEV/ROA

Cross Tabulation Descriptive Results: Cashflow Holdings Vs Financial Performance

Table: 4.7											
YEAR		2009		2010		2011		2012		2013	
RATIO ANALYSIS:	CFH: ROA	C FH	ROA	CFH	ROA	CFH	ROA	CFH	ROA	CFH	ROA
s/n	Name of Listed Company										
1	Eaagads ltd	0.78	11.81%	0.82	11.81%	0.94	21.09%	0.01	3.83%	-0.21	-12.78%
2	Kakuzi Ltd	1.98	19.35%	1.85	18.39	1.85	18.59%	0.15	11.92%	0.12	4.62%
3	Kapchurua Tea	0.75	7.27%	0.78	12.83%	1.12	14.42%	0.11	5.18%	0.23	10.63%
4	Kenya Orchards ltd	-0.22	-5.22%	1.71	1.01%	1.75	1.26%	0.15	0.43%	1.34	1.64%
5	Limuru Tea Ltd	0.72	11.81%	0.72	11.81%	0.68	4.66%	0.92	21%	0.32	3.83%
6	Rea Vipingo Ltd	0.68	12.52%	1.41	8.18%	2.12	25%	1.21	17.95%	1.19	17.17
7	Sisan Tea & Coffee ltd	0.15	7.02%	0.27	11.63%	0.15	5.07%	0.15	-1.49	0.53	1.10
8	Williamson Tea limited	0.25	5.89%	0.6	20%	0.52	16.54%	0.48	13.72%	0.45	11.75%
9	Car & General Ltd	0.35	6.17%	0.34	6.15%	0.02	5.19%	0.15	4.67%	0.18	4.57%
10	CMC Holdings ltd	-	-	-	-	-	-	-	-	-	-
11	Marshal(EA) ltd	0.23	6.17%	0.24	6.15%	0.19	5.19%	0.19	4.67%	0.18	4.57%

12	Sameer Africa ltd	-	6.92%	-	2.64%	-	4.30%	-	8.09%	-	14.97%
13	Express Kenya ltd	0.01	1.87%	-0.49	-3.59	-0.76	-64.11%	0.2	3.89%	0.01	0.07%
14	Kenya Airways Ltd	-0.40	-7.52%	0.93	3.86%	1.75	6.26%	0.88	3.09%	-0.48	-10.94
15	Longhorn Kenya ltd	0.35	4.67%	0.34	4.13%	1.18	18%	0.07	-3.40%	1.25	13.71%
16	Nation Media Group	2.12	17.03%	2.18	19.89%	2.15	22.76%	2.25	23.51%	2.15	22.13%
17	Scangroup	0.70	10.20%	0.55	7.99%	0.70	10.73%	0.60	8.99%	0.40	6.70%
18	Standard Group	1.26	8.76%	1.20	8.46	0.04	4.20	0.05	5.23%	0.08	4.58%
19	Tps Eastern African Group	1.31	5.44%	1.10	4.33%	1.41	4.69%	0.87	3.67%	1.01	4.12%
20	Uchumi Super Market	-	19.90%	-	27.43%		9.75%	3.31	5.54%	3.33	6.41%
21	Arthi River Mining Group	0.15	7.36%	0.16	8.72%	0.42	6.85%	0.89	6.55%	0.12	5.90%
22	Bamburi Cement Ltd	2.75	36.04%	2.27	15.91%	2.45	29.08%	2.28	18.40%	2.25	13.61%
23	Crown Paints Ltd	-1.61	-1.64%	-1.17	1.63	-1.80	-5.82%	-1.47	-5.91%	-1.78	-7.26%
24	East African Cables ltd	2.31	8.35%	0.15	4.07%	1.53	6.30%	2.31	8.35%	1.43	5.85%
25	East African portland ltd	0.18	15.24%	-0.12	-2.35%	0.04	0.01%	-0.17	-6.95%	0.13	11%
26	KenoKobil Lid	0.28	6.57%	0.21	6.30%	0.31	7.12%	-0.2	-0.19%	0.08	1.98%
27	KenGen	0.25	1.83%	0.20	2.18%	0.11	1.29%	0.13	1.73%	0.33	2.78%
28	KPL	0.29	4.56%	0.25	4.37%	0.19	3.48%	0.18	3.44%	0.08	2.46%
29	Total Kenya	0.37	1.53%	0.39	3.02%	-0.21	-0.20%	0.16	-0.61%	0.42	3.28%
30	Umeme	-	-	-	-	-	-	0.20	12.65%	0.25	16.43%

31	ICDCI	1.21	13.25%	2.23	18.63%	1.18	10.28%	1.21	13.23%	1.18	10.32%
32	Olympia C. Holdings ltd	0.27	0.36%	0.85	0.98%	1.25	1.77%	0.19	0.91%	2.25	22.24%
33	Transcentury Ltd	0.25	2.68%	2.12	4.17%	0.33	2.74%	0.15	3.39%	0.32	2.63%
34	Boc Kenya ltd	1.79	7.74%	0.19	3.92%	2.25	8.29%	2.65	9.92%	1.78	7.70%
35	British American Tobacco ltd	2.75	23.77%	2.85	25.19%	3.13	36.83%	3.12	35.85%	3.14	36.49%
36	Carbacid Investments ltd	2.30	19.57%	2.70	21.26%	2.58	17.84%	2.69	20.90%	2.72	22.47%
37	East African Breweries	0.32	32.99%	0.34	33.31%	0.27	26.53%	0.35	34.85%	0.16	21.74%
38	Eveready East Kenya ltd	0.12	1.23%	-0.01	-12.19%	1.75	7.12%	1.55	6.09%	1.25	4.83%
39	Mumias Sugar Company ltd	2.31	11.74%	2.25	10.61%	2.20	9.68%	2.12	9.28%	-0.07	-8.91%
40	Unga Group Ltd	1.32	3.33%	1.43	4.66%	1.75	7.12%	1.55	5.43%	1.45	6.10%
41	Safaricom Ltd	3.00	60.20%	3.00	67.11%	3.02	60.64%	3.01	59.58%	3.02	69.00%
42	Home Africa ltd	-	-	-	-	-	-	1.89	21.30%	1.68	16.83%

Cross Tabulation Descriptive Results: Liquidity Vs Financial Performance

		2009		2010		2012		2011		2013	
		CA:CL	ROA	CA:CL	ROA	CA:CL	ROA	CA:CL	ROA	CA:CL	ROA
1	Eaagads ltd	2.35	11.81%	2.35	11.81%	5.43	21.09%	1.80	3.83%	1.13	12.78%
2	Kakuzi Ltd	2.42	19.35%	2.39	18.39	2.43	18.59%	2.35	11.92%	0.15	4.62%
3	Kapchurua Tea	1.68	7.27%	1.74	12.83%	2.01	14.42%	1.54	5.18%	2.17	10.63%
4	Kenya Orchards ltd	-1.12	-5.22%	1.02	1.01%	0.11	1.26%	0.54	0.43%	0.16	1.64%
5	Limuru Tea Ltd	2.15	11.81%	2.15	11.81%	0.54	4.66%	2.49	21%	1.33	3.83%
6	Rea Vipingo Ltd	2.36	12.52%	1.62	8.18%	2.49	25%	2.32	17.95%	2.13	17.17
7	Sisan Tea & Coffee ltd	1.68	7.02%	2.32	11.63%	1.53	5.07%	-0.23	-1.49	0.12	1.1
8	Williamson Tea limited	0.58	5.89%	2.37	20%	2.13	16.54%	2.39	13.72%	2.35	11.75%
9	Car & General Ltd	1.64	6.17%	1.55	6.15%	0.58	5.19%	0.15	4.67%	0.14	4.57%
10	CMC Holdings ltd	-	-	-	-	-	-	-	-	-	-
11	Marshal(EA) ltd	0.86	6.17%	0.5	6.15%	0.27	5.19%	1.13	4.67%	0.67	4.57%
12	Sameer Africa ltd	-	6.92%	-	2.64%	-	4.30%	-	8.09%	-	14.97%
13	Express Kenya ltd	0.09	1.87%	-0.32	-3.59	-3.33	-64.11%	0.39	3.89%	0.24	0.07%

14	Kenya Airways Ltd	0.01	-7.52%	0.87	3.86%	1.06	6.26%	0.92	3.09%	0.56	-10.94
15	Longhorn Kenya ltd	2.04	4.67%	1.94	4.13%	1.76	18%	1.12	-3.40%	1.63	13.71%
16	Nation Media Group	2.13	17.03%	1.99	19.89%	2.31	22.76%	2.25	23.51%	2.52	22.13%
17	Scangroup	2.07	10.20%	1.68	7.99%	2.05	10.73%	2.32	8.99%	2.46	6.70%
18	Standard Group	1.27	8.76%	1.32	8.46	1.077	4.2	1.12	5.23%	1.15	4.58%
19	Tps Eastern African Group	1.54	5.44%	1.48	4.33%	1.49	4.69%	1.01	3.67%	1.06	4.12%
20	Uchumi Super Market	-	19.90%	-	27.43%	-	9.75%	-	5.54%	-	6.41%
21	Arthi River Minning Group	1.01	7.36%	1.32	8.72%	0.84	6.85%	1.22	6.55%	9.45	5.90%
22	Bamburi Cement Ltd	2.58	36.04%	1.72	15.91%	2.22	29.08%	2.35	18.40%	7.19	13.61%
23	Crown Paints Ltd	1.43	4.64%	1.49	4.63%	2.22	5.82%	2.35	5.91%	7.19	7.26%
24	East African Cables ltd	1.36	8.35%	1.28	4.07%	1.16	6.30%	1.19	8.35%	1.3	5.85%
25	East African portland ltd	2.07	15.24%	1.59	-2.35%	1.47	0.01%	1.02	-6.95%	1.08	11%
26	KenoKobil Lid	1.30	6.57%	1.38	6.30%	1.22	7.12%	0.97	-0.19%	0.93	1.98%
27	KenGen	2.19	1.83%	4.71	2.18%	1.74	1.29%	1.49	1.73%	1.42	2.78%
28	KPL	1.61	4.56%	1.51	4.37%	1.48	3.48%	1.48	3.44%	1.37	2.46%
29	Total Kenya	1.12	1.53%	1.16	3.02%	1.1	-0.20%	1.29	-0.61%	1.27	3.28%
30	Umeme	1.06	-	1.07	-	-	-	-	12.65%	-	16.43%
31	ICDCI	1.26	13.25%	0.09	18.63%	0.68	10.28%	0.33	13.23%	0.21	10.32%
32	Olympia C. Holdings ltd	2.79	0.36%	2.27	0.98%	1.16	1.77%	1.48	0.91%	1.14	22.24%

33	Transcentury Ltd		1.8	2.68%	1.59	4.17%	1.22	2.74%	1.28	3.39%	1.48	2.63%
34	Boc Kenya ltd		2.64	7.74%	2.47	3.92%	1.94	8.29%	2.08	9.92%	2.23	7.70%
35	British American Tobacco ltd		0.97	23.77%	1.17	25.19%	1.31	36.83%	1.17	35.85%	1.26	36.49%
36	Carbacid Investments ltd		10.62	19.57%	5.78	21.26%	8.84	17.84%	4.25	20.90%	10.08	22.47%
37	East African Breweries		1.69	32.99%	1.49	33.31%	0.89	26.53%	0.81	34.85%	0.69	21.74%
38	Eveready East Kenya ltd		1.51	1.23%	1.41	-12.19%	1.11	7.12%	1.25	6.09%	1.54	4.83%
39	Mumias Sugar Company ltd		1.36	11.74%	1.99	10.61%	2.19	9.68%	1.253	9.28%	0.84	-8.91%
40	Unga Group Ltd		1.84	3.33%	2.54	4.66%	2.52	7.12%	2.36	5.43%	1.84	6.10%
41	Safaricom Ltd		0.49	60.20%	0.66	67.11%	0.63	60.64%	0.56	59.58%	0.69	69.00%
42	Home Africa ltd		1.28	-	1.08	-	-	-	-	21.30%	-	16.83%

Graph 4.4: LIQ and ROA

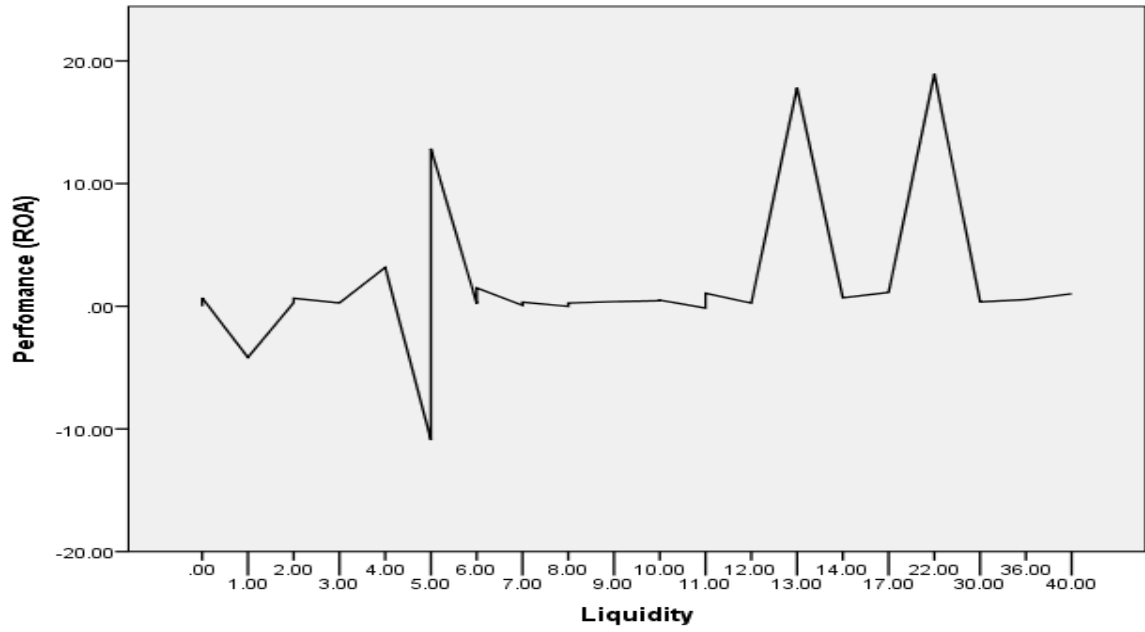


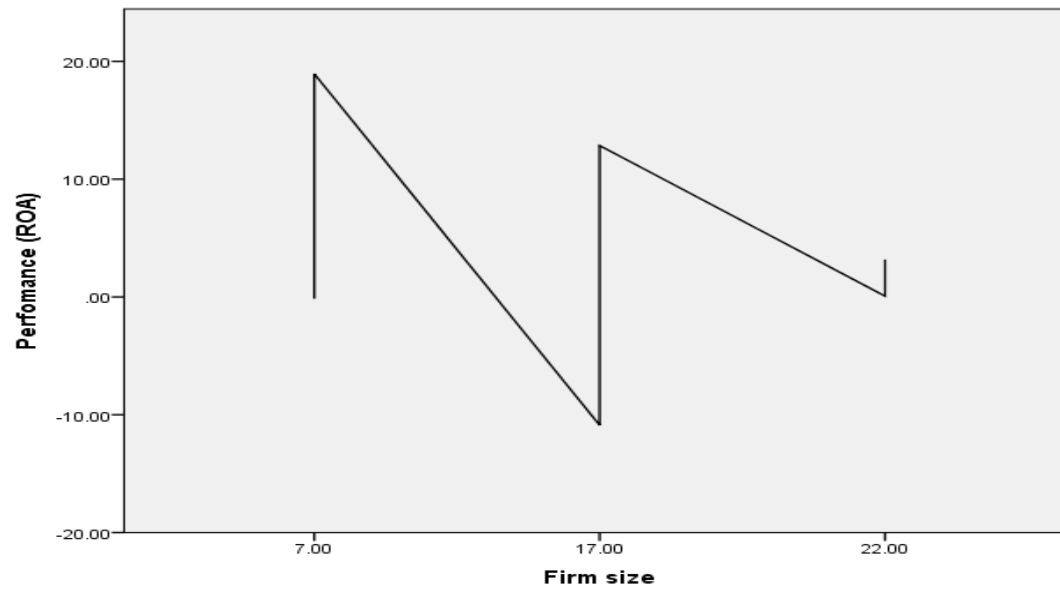
Table 4.3 Cross Tabulation Descriptive Results: Farm Size Vs Financial Performance

Table 4.11											
FIRM SIZE		2009		2010		2011		2012		2013	
RATIO ANALYSIS:	FS: ROA	FS	ROA	FS	ROA	FS	ROA	FS	ROA	FS	ROA
s/n	Name of Listed Company										
1	Eaagads ltd	36.50	11.81%	36.5	11.81%	69.5	21.09%	34	3.83%	25.50	-12.78%
2	Kakuzi Ltd	31.75	19.35%	81.5	18.39	69	18.59%	72	11.92%	95	4.62%
3	Kapchurua Tea	68	7.27%	146	12.83%	115	14.42%	121	5.18%	145	10.63%
4	Kenya Orchards ltd	4.28	-5.22%	4.32	1.01%	4.37	1.26%	4.38	0.43%	4.57	1.64%
5	Limuru Tea Ltd	36.5	11.81%	36.5	11.81%	36	4.66%	69.5	21%	34	3.83%
6	Rea Vipingo Ltd	11.10	12.52%	17.90	8.18%	14.75	25%	17.00	17.95%	27.00	17%
7	Sisan Tea & Coffee ltd	6.05	7.02%	13.3	11.63%	12.05	5.07%	10.95	-1.49	13.3	11%
8	Williamson Tea limited	47	5.89%	221	20%	185	16.54%	230	13.72%	290	11.75%
9	Car & General Ltd	8.80	6.17%	10.70	6.15%	7.78	5.19%	7.48	4.67%	8.83	4.57%
10	CMC Holdings ltd	-	-	-	-	-	-	-	-	-	-
11	Marshal(EA) ltd	-8	6.17%	-8	6.15%	-8	5.19%	-8	4.67%	-8	4.57%
12	Sameer Africa ltd	9.36	6.92%	8.36	2.64%	8.08	4.30%	8.36	8.09%	9.63	14.97%

13	Express Kenya ltd	8.05	1.87%	7.8	-3.59	3.9	-64.11%	3.5	3.89%	3.9	0.07%
14	Kenya Airways Ltd	19.75	-7.52%	60	3.86%	32.5	6.26%	13.95	3.09%	12.5	-10.94
15	Longhorn Kenya ltd	24.27	4.67%	25.62	4.13%	34.34	18%	4.52	-3.40%	6.6	13.71%
16	Nation Media Group	9.8	17.03%	12.7	19.89%	13.3	22.76%	13.4	23.51%	-	22.13%
17	Scan group	1.49	10.20%	2.13	7.99%	2.55	10.73%	2.21	8.99%	2.7	6.70%
18	Standard Group	38	8.76%	45.5	8.46	25	4.2	21.8	5.23%	26	4.58%
19	Tps Eastern African Group	45	5.44%	68.5	4.33%	55	4.69%	40	3.67%	45.5	4.12%
20	Uchumi Super Market	2.34	19.90%	4.81	27.43%	1.47	9.75%	1.03	5.54%	1.35	6.41%
21	Arthi River Mining Group	111	7.36%	183	8.72%	158	6.85%	44.5	6.55%	90	5.90%
22	Bamburi Cement Ltd	156	36.04%	187	15.91%	125	29.08%	185	18.40%	210	13.61%
23	Crown Paints Ltd	25	4.64%	36	4.63%	20.5	5.82%	42.5	5.91%	75	7.26%
24	East African Cables ltd	16.75	8.35%	11.7	4.07%	10.55	6.30%	11.7	8.35%	16.75	5.85%
25	East African portland ltd	20.38	15.24%	-3.16	-2.35%	0.02	0.01%	-10.5	-6.95%	19.73	11%
26	KenoKobil Lid	0.88	6.57%	1.3	6.30%	2.22	7.12%	-4.27	-0.19%	0.38	1.98%
27	Kengen	0.94	1.83%	1.49	2.18%	0.95	1.29%	1.28	1.73%	2.39	2.78%
28	KPL	1.18	4.56%	1.16	4.37%	0.07	3.48%	0.07	3.44%	0.09	2.46%
29	Total Kenya	30.01	1.53%	32.08	3.02%	30.79	-0.20%	22.54	-0.61%	24.42	3.28%
30	Umeme	-	-	-	-	-	-	10.00	12.65%	13.00	16.43%
31	ICDCI	15.60	13.25%	21.05	18.63%	13.05	10.28%	19.90	13.23%	36.50	10.32%

32	Olympia C. Holdings ltd	40.91	0.36%	39.06	0.98%	18.71	1.77%	17.76	0.91%	15.36	22.24%
33	Transcentury Ltd	13.38	2.68%	19.82	4.17%	24.21	2.74%	23.5	3.39%	28.75	2.63%
34	Boc Kenya ltd	150.00	7.74%	132.00	3.92%	100	8.29%	99.5	9.92%	125	7.70%
35	British American Tobacco ltd	178	23.77%	270.00	25.19%	246	36.83%	493	35.85%	600	36.49%
36	Carbacid Investments ltd	140	19.57%	125	21.26%	1.5	17.84%	125	20.90%	140	22.47%
37	East African Breweries	16.4	32.99%	16.8	33.31%	21.5	26.53%	20.3	34.85%	20.2	21.74%
38	Eveready East Kenya ltd	4.75	1.23%	5.7	-12.19%	4.8	7.12%	5.5	6.09%	4.5	4.83%
39	Mumias Sugar Company ltd	6.00	11.74%	12.85	10.61%	7.15	9.68%	6.10	9.28%	4.20	-8.91%
40	Unga Group Ltd	36.50	3.33%	36.50	4.66%	36.00	7.12%	69.50	5.43%	34.00	6.10%
41	Safaricom Ltd	3.00	0.60	5.55	0.67	3.80	0.61	3.20	0.60	6.00	69.00%
42	Home Africa ltd	-	-	-	-	-	-	0.12	21.30%	0.05	16.83%

Graph 4.5: FS and ROA



Appendix 6: Days in accounts payables [AP]

Days in accounts payables P/RATIO: [AP] (average of accounts payable/cost of goods sold *365)

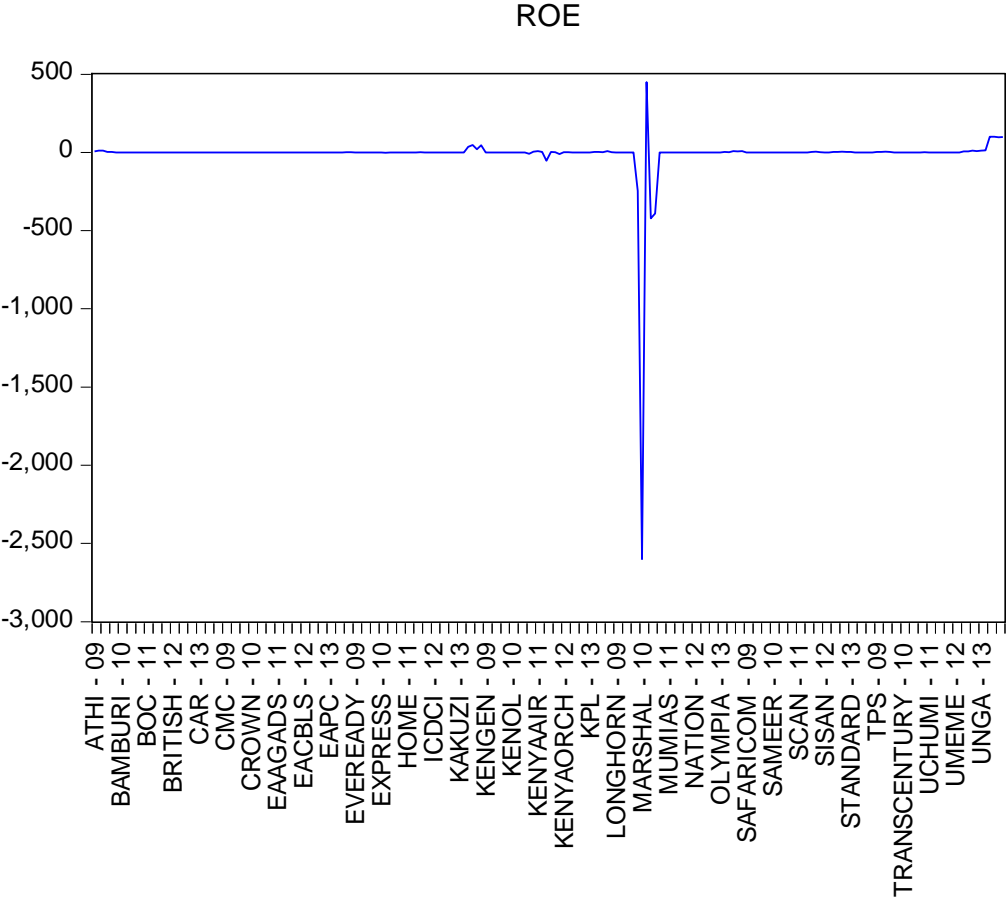
YEAR		2009	2010	2011	2012	2013
	AP					
s/n	Name of Listed Company	Days in accounts Payables				
1	Eaagads ltd	62	77	64	58	467
2	Kakuzi Ltd	172	146	110	64	105
3	Kapchurua Tea	117	162	102	137	129
4	Kenya Orchards ltd	423	321	207	163	98
5	Limuru Tea Ltd	330	330	22	64	13
6	Rea Vipingo Ltd	71	111	77	37	42
7	Sisan Tea & Coffee ltd	162	82	129	75	100
8	Williamson Tea limited	76	131	182	145	203
9	Car & General Ltd	178	198	226	228	235
10	CMC Holdings ltd	-	-	-	-	
11	Marshal(EA) ltd	167	110	280	294	417
12	Sameer Africa ltd	-	-	-	-	-
13	Express Kenya ltd	211	243	332	272	152
14	Kenya Airways Ltd	102	110	100	81	169

15	Longhorn Kenya ltd	153	271	197	330	194
16	Nation Media Group	314	325	347	162	421
17	Scan Media Group	132	171	169	130	154
18	Standard Group	130	143	148	122	115
19	Tps Eastern African Group	101	160	128	162	140
20	Uchumi Super Market	439	318	208	386	390
21	Arthi River Mining Group	292	319	199	301	205
22	Bamburi Cement Ltd	94	148	72	93	86
23	Crown Paints Ltd	201	186	157	138	164
24	East African Cables ltd	266	198	205	314	320
25	East African portland ltd	88	69	78	92	155
26	KenoKobil Lid	78	23	57	49	72
27	Kengen	85	93	92	100	184
28	KPL	263	443	597	472	761
29	Total Kenya	33	64	92	49	57
30	Umeme	-	-		13	16
31	ICDCI	770	159	137	795	306
32	Olympia C. Holdings ltd	232	234	268	212	161
33	Transcentury Ltd	86	107	271	144	157

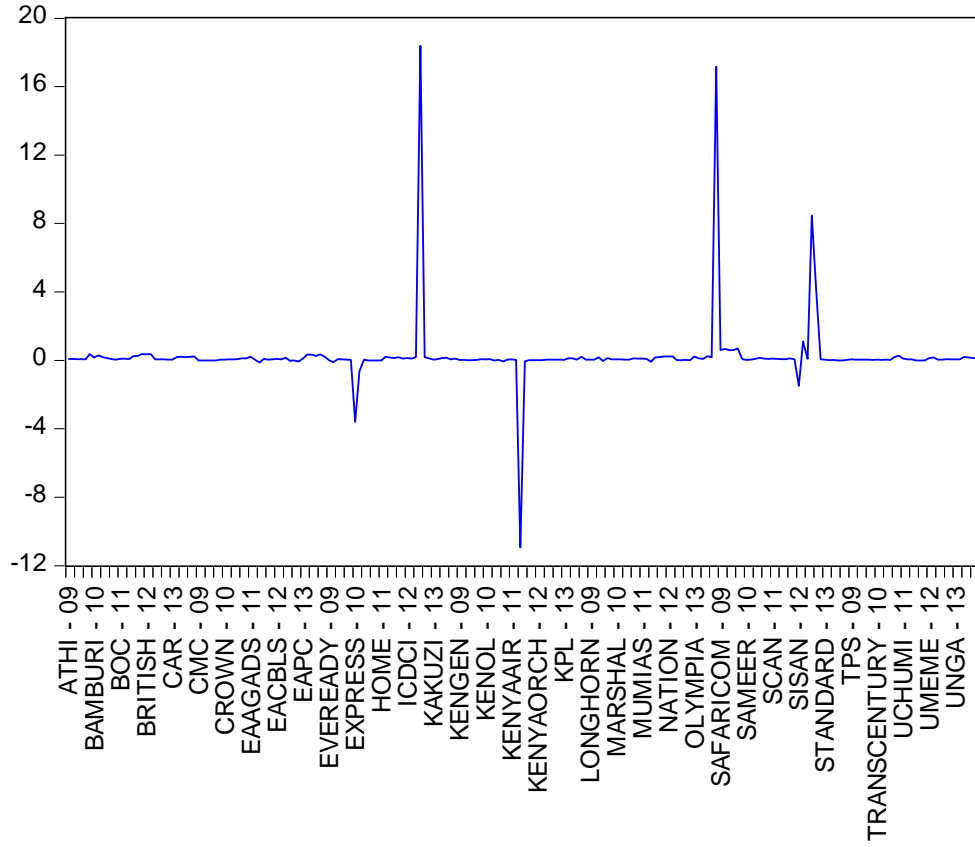
34	Boc Kenya ltd	205	251	257	308	332
35	British American Tobacco ltd	108	83	123	156	174
36	Carbacid Investments ltd	131	133	83	142	101
37	East African Breweries	188	185	217	195	164
38	Eveready East Kenya ltd	245	278	242	302	231
39	Mumias Sugar Company ltd	129	68	82	151	216
40	Unga Group Ltd	66	43	46	46	75
41	Safaricom Ltd	250	191	192	160	134
42	Home Africa ltd	-	-	-	259	353

**Source: nairobi securities exchange
h a n d b o o k
2013 - 2014**

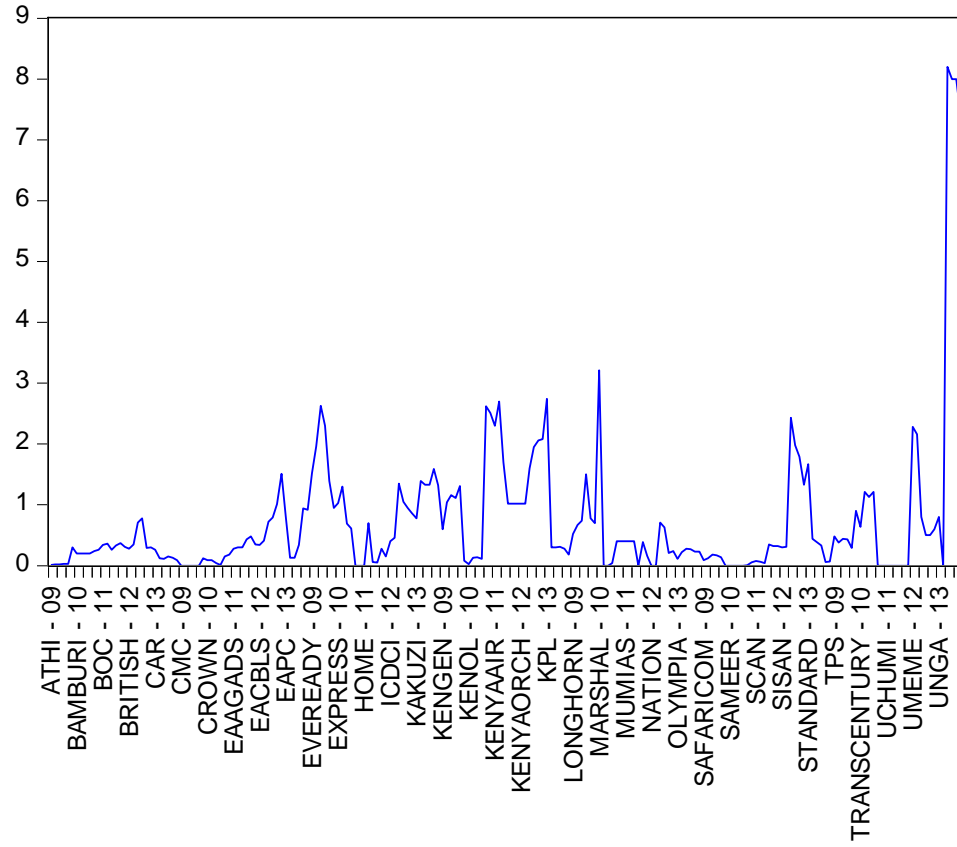
Single Graphs



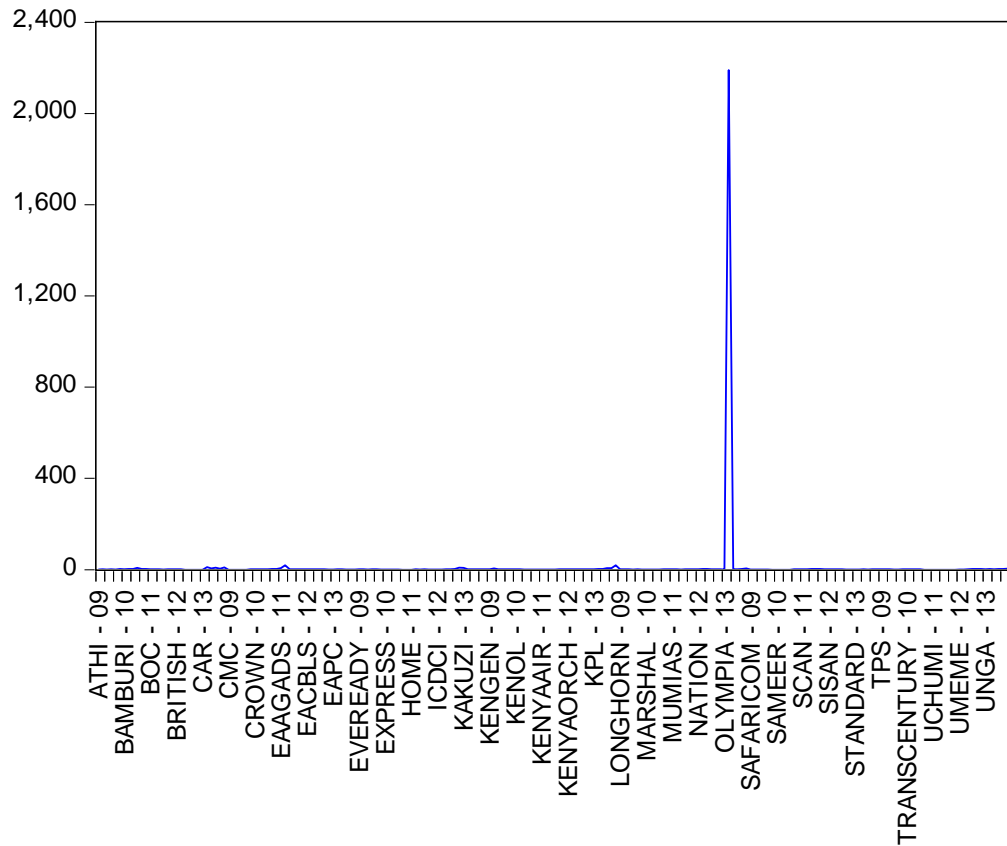
ROA



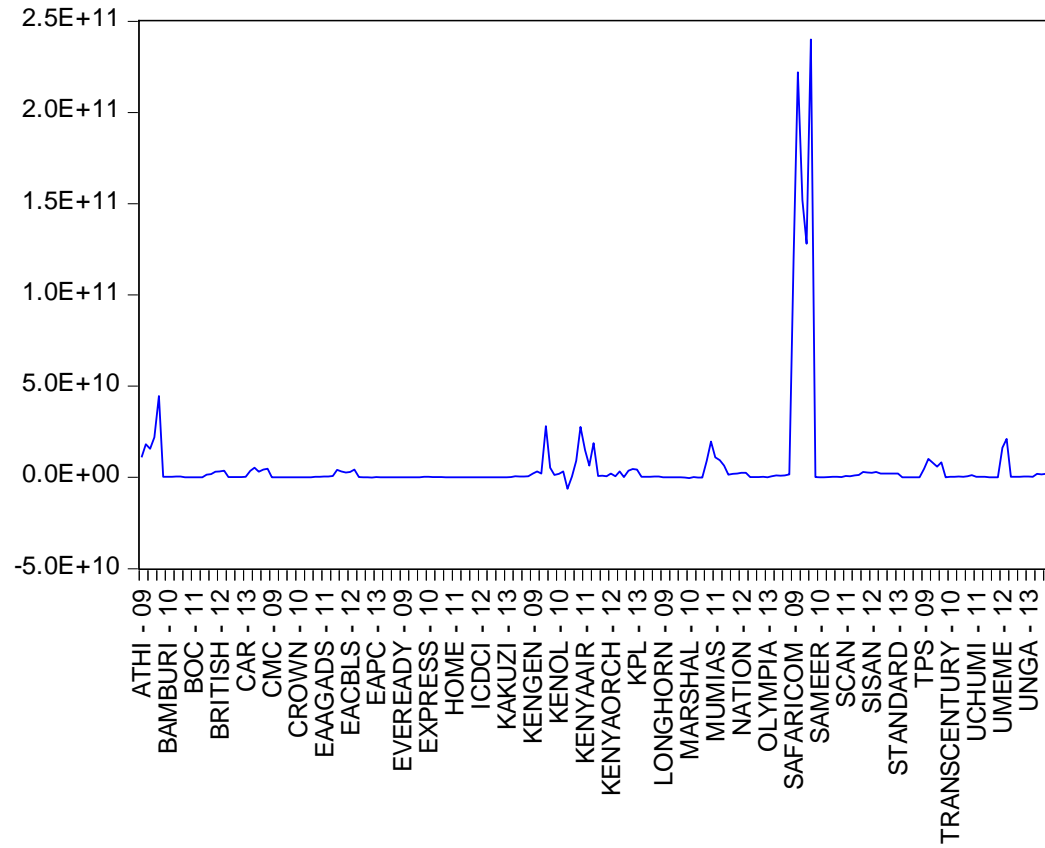
LV



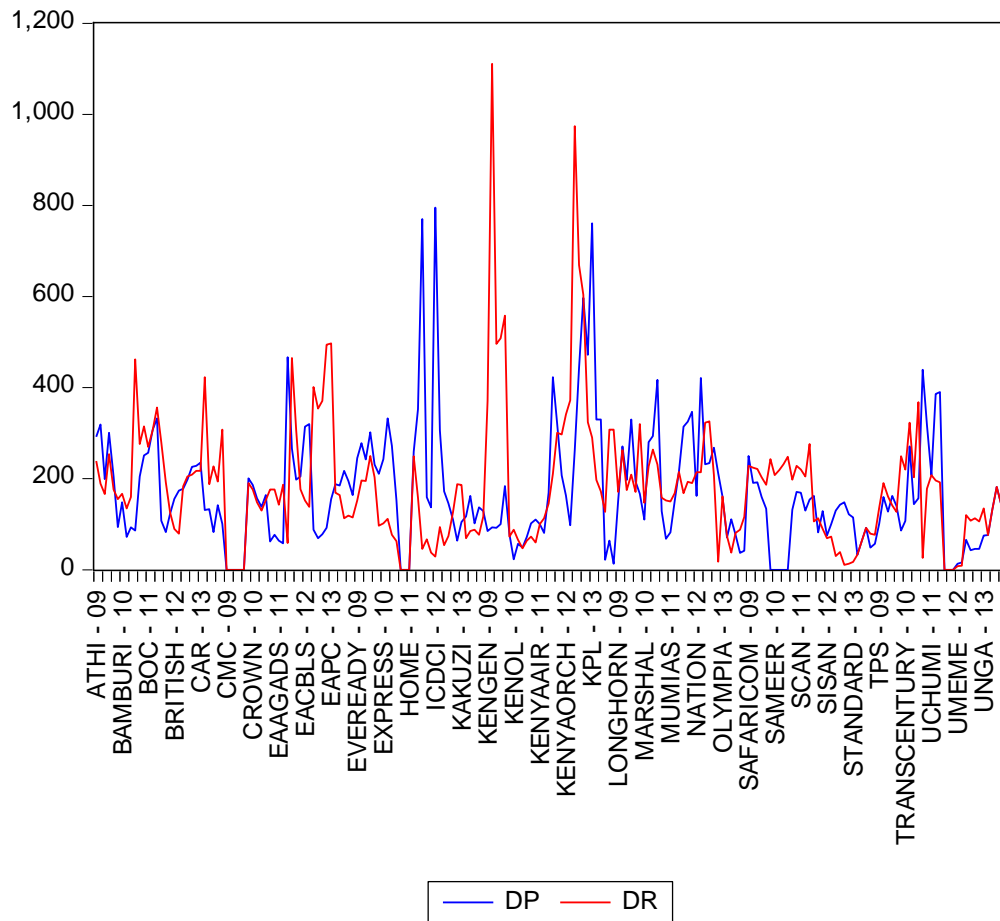
LQ



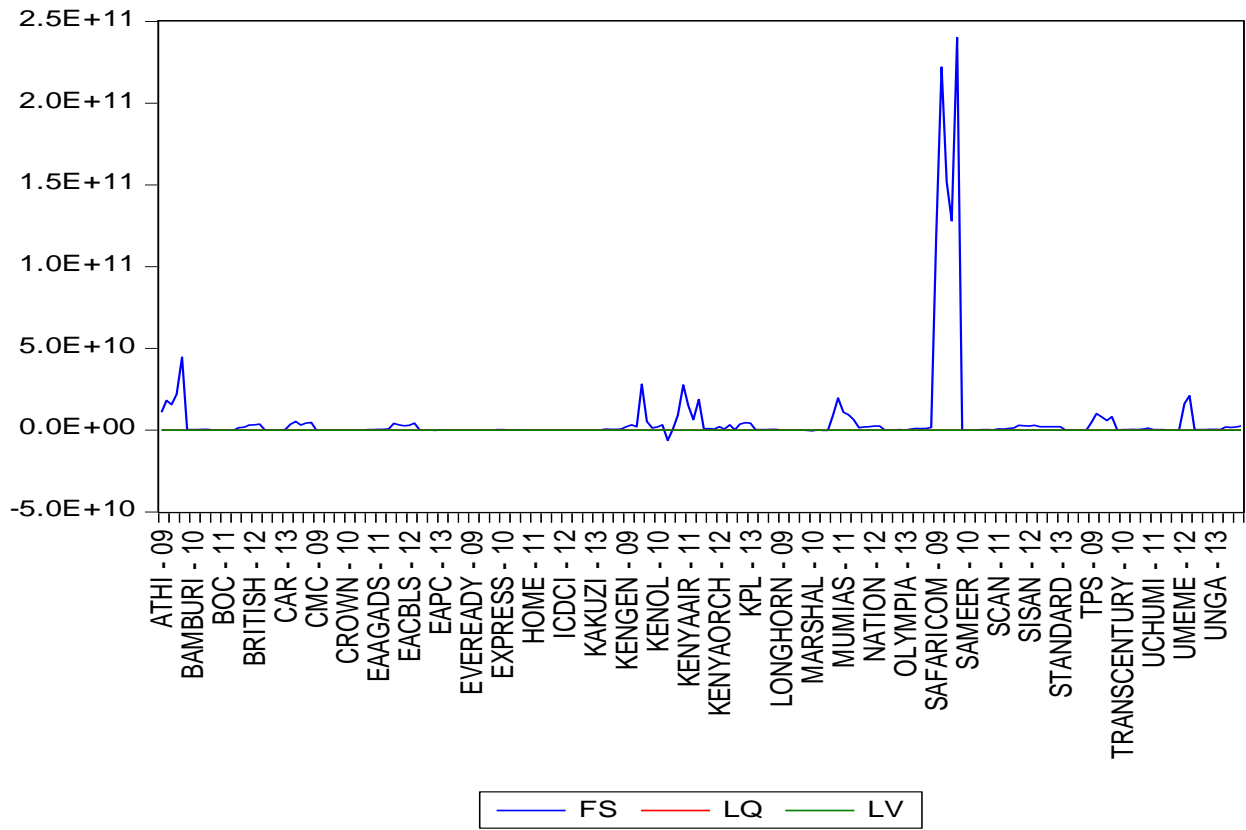
FS



Combined graphs:- AP/ AR



Firm Size; Liquidity and Leverage.



Combined effect of Lev,LIQ,FS,AR and AP on ROE & ROA

