THE EFFECT OF CAPITAL STRUCTURE ON PROFITABILITY OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE

LILIAN NJERI GICHUHI

A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE OF MASTER OF BUSINESS ADMINISTRATION (MBA), SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

OCTOBER 2016

DECLARATION

The project is my own work and it has not been submitted for examination in any other university or institution of higher learning for any academic award or credit.

Signed …….. Date……

Lilian Njeri Gichuhi

D61/68853/2013

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

Signed …….. Date……

Mr. Mwachiti Ngome Mohamed

Lecturer

Department of Finance and Accounting

School of Business, University of Nairobi

DEDICATION

This is devoted to my loving husband and child for their love and understading when I was out to pursue my studies.

ACK NOWLEDGEMENT

I intend to recognize a few peole and groups that made this research project a success. To my supervisor, Mr. Mwachiti Ngome Mohamed and moderator, Dr. Cyrus Iraya for their consructuve criticism and guidance when I was writing the project. To the School of Business, University of Nairobi staffs for their efforts and support in many ways. To my immediate family, for their encouragements during my low moments. Last but not least, I thank God for the gift of life and good health.

TABLE OF CONTENTS

ABSTRACT

Firms require capital to finance their business operations and invest. Most firms are faced with a dilemma on whether to utilize debt or equity to finance their firms. But, it important for firms to find the best option and effectively manage their risks. The objective for this study was to determine the outcome of capital structure on profitability of firms listed at the NSE. A descriptive research design was considered effective for this study because it was useful in collecting data that depict the relationship between variables. The study targeted 67 firms that had been actively trading for the last 5 years (2011-2015) nonetheless; data was collected from 36 firms that were considered satisfactory to make generalization. The study used secondary data which was obtained from annual reports published by Capital Markets Authority. Analysis of data was done using descriptive and inferential statistics. The study found that listed firms were profitable in the study period. Firms utilized debt which minimized their cost of financing and operational costs. There lacked a relationship between capital structure, firm size, leverage and profitability of listed firms. The independent variables explained eighteen percent variance in profitability of listed firms. The regression model implemented was found to be significant. It was concluded that there existed an insignificant link relating capital structure and profitability of listed firms. It is recommended that a fair mix of debt and equity should be established to ensure that the firm maintains capital adequacy. Firms can thus be able to meet their financial compulsions and investments that can promise attractive returns. Time and resources was a hindrance that forced me to use 36 listed firms. A replica of this research study should be conducted in another sector such as the manufacturing sector to find out if similar results will hold. Financial leverage varies significantly by industry. Researchers can compare results and make a logical conclusion.

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS AND ACRONYMS

ASEA African Securities Exchanges Association

CMA Capital Markets Authority

EASEA East African Securities Exchanges Association

ETFs Exchange Traded Funds

NSE Nairobi Securities Exchange

ROA Return on Assets

ROE Return on Equity

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Capital structure choice is imperative for the firm, this is for the reason that it determines how well a firm can identify and invest in projects that can promise better returns. An investment decision made by the firm has an influence on its competitive abilities to cope with a aggressive environment (Wald, 1999). The capital structure of a company essentially is a blend of various securities. In broad, a company can go for amongst numerous options of capital structures. A firm can issue a huge quantity of debt or meager debt. A firm can also organize to lease financing, use warrants, issue convertible bonds, sign forward contracts or trade bond swaps. Also it can issue dozens of different securities in limitless blends; nevertheless, it tries to get the exacting blend that make best use of its general market worth (Hadlock and James, 2002).

Champion (2000) argues that the capital structure choice is vital for any business. The choice is vital since there is need to capitalize on proceeds to different organizational areas, and also since of the influence such a choice has on a company's capability to cope with its aggressive environs. The business surroundings is characterized by risks and reservations in such a circumstances; decision making is one of the majority demanding responsibilities in deciding the future of a firm.

The managers must consider the motive and consequence connection as they make a meticulous choice. It is therefore important for managers to make accurate decisions that impact positively on firm performance (Williamson, 2001). The managers of

present business world must go after systems approach in their choice since a choice in use in segregation can get a firm to the edge of a adversity. Titman and Wessels (2001) contends that of all the features of investment speculation choice, capital structure choice is necessary, as the profitability of a venture is frankly affected by such choice. Therefore, appropriate concern and concentration require to be specified whereas making the capital structure choice (Graham, 2000).

1.1.1 Capital Structure

The capital structure of a business is a blend of debt and equity utilized by the firm in its processes. Brealey and Myers (2003) note a company can issue many of different securities in limitless combinations while attempting toward establishing a blend so as to enhances market worth. Wald (1999) contends that the greatest capital structure is lone to make best use of the market worth of the company's exceptional stocks.

Companies can use either debt or equity capital to finance their possessions. Greatest choice is a combination of debt and equity. In circumstance where interest was not duty deductible, companies' proprietors would be uninterested as to whether they used debt or equity, and where interest was tax deductible, they would make best use of the worth of their organizations by spending 100% debt bankrolling (Champion, 2000). Use of debt in capital structure of the company leads to agency charges. Agency charges rise as a consequence of the associations amongst stakeholders as well as directors, and those among debt-holders and stakeholders (Jensen and Meckling, 1976).

1.1.2 Firm Profitability

Maheshwari (2001) indicate that a firm's profitability is its capability to make profit from all its business lines. This is an indication of how efficient the administration can generate incomes using the capitals accessible in the market. Income growth is said to be the key aim of every firm. In a aggressive marketplace, a firm possessor need to learn to attain a acceptable level of productivity. Cumulative productivity comprises defining which parts of a monetary policy are functioning and which ones require upgrading. The management of any firm is charged with a responsibility of making the right decisions that would maximize the returns of an organization. In genuineness, organizations ensure they have returns goals, in addition occasionally they compensate executives for accomplishing them, nonetheless the objectives of organizations remain bigger than proceeds only (Petersen and Kumar, 2010).

Conferring to the pecking order philosophy in occurrence of uneven facts, a company would select internal funding instead of other sources of capitals, but desire to issue debt if internal funds was drained. The slightest striking substitute for the organization would be to issue new equity. Commercial companies are expected to have additional reserved incomes. It is anticipated that recognized stockholders will choose to capitalize in gainful companies. This is since the more gainful the company is, the lesser the probability of evasion and of obligating to face monetary hitches and insolvency (Williamson, 2001).

Each company is most concerned with its productivity. One of the greatest regularly used gears of monetary proportion examination is productivity proportions used to govern firm's end result and its yield to that one of stockholders. Productivity processes are significant towards executives as well as proprietors of a company

subsequently they display general competence in addition to presentation of the company. Profitability proportions can be separated into twofolds that is margin and returns (Petersen and Kumar.2010). Proportions that display margins signify the capability of a company to convert transactions into incomes at numerous phases of dimension. Proportions remain vital gears intended for gauging productivity of the company since they exemplify capability a company towards quantifying the general efficacy of the firm in producing earnings to its stockholders. This study will measure profitability using Return on Assets (ROA) which is calculated as net income divided by total assets (Khan and Jain, 2003).

1.1.3 The relationship between Capital Structure and Firm Profitability

Capital structure make best use of the market worth of a company that is if a company requiring a appropriately intended capital structures the collective worth of the rights and proprietorship benefits of the stockholders are exploited. Effective and efficient utilization of the capital structure bring about cost reduction.

Appropriate blend of debt and equity enables the company to invest in profitable ventures. This is because capital structure upsurges the capability of the business to find new affluence by generating venture chances. With appropriate wealth gearing it also rises the self-confidence of dealers of debt. This enables firm to utilize leverage and enjoy the benefits of tax deduction, this leads to an increase in profitability. This is in line with a study conducted by Friend and Lang (1995) who established that there was a affirmative connection among capital structure and profitability. The findings revealed that firms that maintained an optimal capital structure obtained cheap funds to finance their operations which in turn generate returns and enhanced their financial performance.

Capital structure rises the nation's amount of venture and development by growing the company's chance to involve in forthcoming affluence-generating monies. This is because firms that make maximum use of leverage face attractive growth due increasing costs savings as a result of tax deduction. This is consistent with Sarkar and Zapatero (2003) who observed there was affirmative connection among leverage and productivity of businesses.

1.1.4 Nairobi Securities Exchange

Nairobi Securities Exchange (NSE) provides an programmed podium for citation and transacting securities. Over the previous 6 eras, the NSE has been providing a fine controlled, vigorous and world class podium to trade equities and bonds. Current NSE is organizing to produce new produces comprising; Exchange Traded Funds (ETFs), Financial and Commodity Derivatives and Carbon Credits. NSE is the market of choice meant for global as well as local stockholders who aspire to advance exposure to East Africa capital markets. NSE is licensed as well as regulated by Capital Markets Authority (CMA). It is authorized to offer a dais for trading registered securities and oversight of its member companies. CMA is a government regulator which is responsible for certifying and regulating the capital markets in Kenya. It gives approval to public bids and schedules of securities merchandised at the Nairobi Stock Exchange.

NSE plays a significant part in the development of Kenya's economy by encouraging savings and investing and aiding local and international firms to gain access to cost-effective capital. NSE functions under the authority of the Capital Markets Authority of Kenya. It is an associate of the World Federation of Exchange, a initiator associate of the African Securities Exchanges Association (ASEA) and the East African

Securities Exchanges Association (EASEA). Current there 67 listed firms under the Nairobi securities Exchange (NSE, 2016).

In most firms capital structure is typically intended to help the interest of the equity stockholders (Champion, 2000). Thus as an alternative of accruing full reserve from shareholders a share of longterm reserve may be raised up as early payment in the form of debenture or pledge through disbursing a secure yearly duty. Although these expenditures are measured as outlays to an unit, such technique of funding is accepted to aid the interest of the normal stake-holders in a healthier way. Choices connecting to funding the possessions of most registered firms are very critical in every corporate and the business executive is often fixed in the quandary of whatever the finest amount of debt and equity should be. As an overall rule there should be a appropriate blend of debt and equity capital in funding the organization's possessions (Kuria, 2014).

1.2 Research Problem

The capital structure choice of financial company and that of non-financial company is equal though there are substantial inter business variances in the capital structure of companies due to the distinct nature of each business's commercial and intra-firm disparities which is attributable to commercial and monetary peril of discrete companies (Brealey and Myers, 2003). Firms that need finances are faced with dilemma on whether to use debt or equity. However, it is imperative for firms to assess and manage risks. Firms fail to agree on an optimal capital structure that can effectively accommodate risks and sustain the firms' profitability (Azhagaiah & Candasamy, 2011).

Firms need monetary wealth in so as to function their industry, listed firms in Kenya raise financial capital by issuing debt securities or by vending common stock. The quantity of debt and equity that makes up a company's capital structure has numerous peril and yield inferences. Consequently, company administration has an responsibility to use a exhaustive and judicious procedure for founding a business's objective capital structure that enable firm to make efficient use of available sources of finances to boost profitability (Tale, 2014).

Chiang and Chuang (2009) directed a study on the influence of capital structure on profitability of registered companies in Hong Kong. Consequences depicted significant association amongst capital structure in addition to productivity of non-financial registered firms on Islamabad Stock Exchange. Abor (2005) examines connection among capital structure and productivity of registered companies on the Ghana Stock Exchange. Results concluded there was a affirmative link between the proportions of short-term debt to entire assets. Mendell and Mishra (2011) investigated financing practices crosswise companies in the woodland produces industry by studying the association amid debt and levies conjectured in business philosophy. Study found a undesirable association amid productivity and debt.

Ondiek (2010) examined the relationship amid of capital structure as well as financial presentation of registered firms by Nairobi Securities Exchange. It remained exposed that capital structure was influenced by asset tangibility, size of the firm and profitability**.** Kuria (2013) conducted a research on the consequence of capital structure on the monetary performance of commercial Banks in Kenya. The findings

publicized no noteworthy relationship amid of the capital structure and the financial presentation of commercial banks in Kenya. Tale (2014) studied the connection among capital structure and financial presentation of non-financial registered companies at the NSE in Kenya. Research found financial presentation was definitely connected to debt-to-equity ratio. In spite of these studies: Ondiek (2010), Kuria (2013) and Tale (2014) failing to agree on the connection that exists amid capital structure and productivity of registered companies, they are not conclusive. Ondiek (2010) used a sample of 20 listed firms, Tale (2014) focused on non-financial firms while Kuria (2013) focused on commercial banks in Kenya. These studies were not exhaustive, hence the current study found the worth to undertake an extensive study to bring forth a better understanding on the connection among capital structure and productivity of registered firms at Nairobi Securities Exchange through finding an answer to the question: what was the effect of capital structure on profitability of registered firms at Nairobi Securities Exchange?

1.3 Research Objective

To determine the effect of capital structure on profitability of firms listed at the Nairobi Securities Exchange.

1.4 Value of the Study

Findings of the study might be useful towards policy makers; like Capital Markets Authority (CMA), in setting policies that ensure that listed firms maintain and implement an optimal structure that is less susceptible to financial risks. This will enable firms to exploit cheaper and reliable sources of finances to enhance profitability.

Other firms other than listed one will also benefit from the findings of the study. They will learn how to balance capital structure and how this influence on the productivity in the company, this is for the reason that the development in the productivity is essential for the long-lasting survival of the firm. The study will contribute to the available literature. It will provide more insights on the relationship between capital structure and profitability of listed firms, ways of achieving an optimal capital structure. Researchers interested in this field of research might use the findings of this study as a point of reference for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter describes theoretical basis for the study to bring out the link between profitability and capital structure. Profitability determinants have also been discussed including the empirical review and the a chapter summary.

2.2 Theoretical Foundation

Under this section, the study discusses the theories that are in line with the study variables; capital structure and profitability. These theories include: Modigliani and Miller Model, Pecking Order Theory and Agency Theory.

2.2.1 Modigliani and Miller Model

Modigliani and Miller (1958) contended that the capital structure of a company is immaterial to the company's worth, supposing faultless markets and zero business deal charges. Modigliani and Miller (1963) presented the influence of business revenue levies on the capital structure of a company and established that companies will upsurge their use of debt to exploit the duty deductibility of interest. Though, greater debt funding upsurges the likelihood of insolvency. Market symmetry must be real in which the value of using debt-financing equals increased peril of insolvency owing to the great leverage of companies. This was supported by Staking and Babbel (1995) who argued that they concurred with the hypothesis made by Modigliani and Miller.

Modigliani and Miller (1963) revised their previous opinion through integrating duty welfares as causes of the capital structure of companies. Important feature of tax policy is that interest is a tax-deductible outlay. Company which remits duties obtains partly counterweighing interest duty-shield in the form of smaller levies remited. Consequently, as Modigliani and Miller (1963) propose, companies ought to expenditure equally considerable debt capital as possible acceptable to exploit their worth. Alongside with company tax policy, scholars were also concerned in investigating the situation of individual duties levied on persons.

2.2.2 Pecking Order Theory

Pecking order theory observe that companies are enthusiastic to trade their equity when the market is overvalued (Myers, 1984, Chittenden, 1996). This is built on the proposition that executives act in favour of their stockholders, as a result, they decline use of underrated stocks except the worth allocation to new stockholders is greater than counterbalance by the remaining current worth of the development chance. It can therefore be settled that new stocks can only be ussued at a greater value rather than the one levied by the actual market. Based on the investors the issuance of equity by the company signifies overvaluing. If the firm ignores exterior funding, it might resort to secured debt rather than perilous debt and thus companies can only issue common stocks as a latter option.

Myers and Majluf (1984), observe that companies choose internal finances sources as opposed to costly sources of finance. Pecking order theory holds that moneymaking firms make a high rate of earning whereby they are likely to spend less debt capital unlike those that fail to make higher incomes. Scholars confirmed the linkage between

company profitability and leverage as follows: Friend and Lang (1995) and Kester (1986) found that profitability was negatively related to debt-to-asset ratios. Rajan and Zingales (1995) and Wald (1999) establish an contrary correlation amid leverage and profitability. Fama and French (1998) posited that there was a positive link amid profitability and leverage. It was observed a high amount of leverage led to agency problems amongst stakeholders and creditors which resulted into a negative connection amid leverage and profitability. These results are agreement with Booth & Aivazian (2001) who investigated capital structure and profitability in a number of countries having diverse financial markets. It was found that the variables that affected the choice of the capital structure of firms were alike inspite of the variances of the fiscal markets. The results concluded that productivity was inversely related to debt and firm size.

2.2.3 Agency Theory

Agency costs emante from various conflicts from the stakeholders and self-seeking behavior. The assumptions underlying in this theory for public firms is that the management and emoloyees must have shared objectives and to expand the company even if it worth investing in investments that do not cover their rate of capital. This is so for the reason that, executive and employees' pays service chances, perks and job safety are linked to company scope (Kumar, Rajan & Zingales, 2001).

Top management can increase scale of the firm's operations through diversification. Growth strategies might affect the wealth of the shareholders, evidence shows that firms embrace diversificantion since it minimize risks while enhancing the value of shareholders. Lamont & Polk (2002) observe that bank growth entails increasing management layers and employing more employees. This kind of growth reduces the

bank's ability to effectively cope with evolving changes in the environment and prevent the bank from responding to customer needs hence affect the bank's profitability.

Maksimovic & Phillips (2002), the superior the duration of control (number of administrative layers) in the organization, the more complex the transaction and agency costs will be. The main measure for administrative layers is the number of employees hence agency costs and spand of control costs highly depends on the vastness of these layers. These costs determine whether the average costs per unit would be increased and off set thrifts of scale and establish an ideal scope of the company.

Lamont & Polk (2002) argue that the top management of the bank has control over the bank resources which they can make maximum use to increase the bank's profitability. These resources include: assets, technology and intellectual property. Jensen and Meckling (1976) posit that consequence of leverage on entire agency charges is probable to be non-monotonic. At low levels of leverage (high capital ratio), debt increase will point out, the effect of leverage (high capital ratio), upsurges of debt motivates executives to minimize the agency debt costs and thus enhance profitability. Further, bankruptcy and financial distress result into unequal difficulties and agency charges of debt surpass the agency charges of equity, and lead to further upsurges in leverage (lower capital ratio) that will effect in advanced entire agency charges as well as impact negatively on profitability.

2.3 Determinants of Profitability

There are various determinants of a firm's profitability; these determinants might have a positive or undesirable result on the company's profitability. In view of this, the study will discuss the following determinants of profitability; liquidity, firm size, Leverage and efficiency.

2.3.1 Liquidity

Padachi (2006) notes that liquidity affects the firm profitability, liquidity risk can be evaluated using two approaches, these include: liquidity ratios and liquidity gap. Liquidity gap is the difference between liabilities and asssets at present and future data. Liquidity is described as the amount of capital that is available for spending and investing. Capital includes cash, credit and equity. Most institutions prefer using debt because it is a chaper source of financing because of tax deductions. Stable firms are more liquidity because they invest in short-term investments that generate free cahsflows, their long-term investments are examined to ensure that they earn a return on investment. It is argued that a positive gap between assets and liabilities is equal to a deficit. Liquidity ratios can also be decribed as balance ratios that establish liquidity trends of a firm. The firm should aim at achieving a proper balance between assets and liabilities to minimize the cost of fundings while ensuring that funds for investment can be accessed in a short period of time. Firm can achieve this through holding a portfolio of assets which can easily be converted into liquid assets. Exmples include treasury bills that are short-term in nature and risk free (Padachi et al., 2008).

2.3.2 Firm Size

For a firm to be profitable, it means that its assets have to generate income which is important for investments and meeting short-term financial responsibilities. There exists substantial evidence that firm size is instrumental in contributing towards firm profitability. Stable firms opt to diversify their products lines and investment and thus minimize their risk of bankcruptcy. So, a optimistic link is anticipated between company scope and leverage (Graham, 2000). Institutional stockholders opt to capitalize hugely in stable companies in the trust that they possess lower peril of insolvency since big companies have access to resources needed and ability to minimize risks of their stock investment. Therefore, they are fewer susceptibe to monetary suffering and insolvency peril (Wald, 1999).

Large firms get discounts from suppliers because they deal with bulky products, this minimizes their operational costs and impact positively on their profitability. This is also supported by Jonsson (2007) who maintains that large banks are profitable as compared to smaller banks. They have a large portfolio of customers that attracts more customers while retaining present customers. Such banks possess a huge turnover of customers and a huge assest base and can easily access credit because of its credibility from stakeholders and financial stability (Williamson, 2001).

2.3.3 Leverage

Abor (2005) define leverage as the amount of debt used to finance company assets. A firm that utilizes more debt compared to leverage is perceived to be highly levered. Empirical review depicts a mixture of reaction on the link between these two variables (leverage and profitability) as follows: Robb and Robinson (2009), Ruland

and Zhou (2011) depict a positive linkage between leverage and profitability. In view of this, Jensen (1976) indicat the presence of a optimistic linkage amid leverage and firm profitability.

Robb and Robinson (2009) note that use of debt increases firm market value. Financial leverage was found to contribute positively towards company's yield on equity considering the influence of earnings of the firm's possessions which is more as compared to the aggregate cost of interest of firm's debt. Financial leverage impacts positively on return on equity taking into account the earnings power of a firm's assets that are more compare to the average cost of debt. Abor (2005) posits the being of a positive linkage amid total debt and profitability (profitability was measured using return on equity). Equally, Chandrakumarmangalam & Govindasamy (2010) found that leverage was positively linked to profitability and wealth of shareholders that was maximized when firms utilized excessive debt.

2.3.4 Efficiency

Berger and De Young (2011) define efficiency as level of performance which defines a procedure that utilizes the lowermost sum of contributions to generate outputs. Efficiency is the use of all contributions to produce a agreed yield which include individual period and vigor. Competence is a notion that can be measured by decisive the proportion of valuable production to entire contribution. It mitigates the surplus of incomes for example physical resources, vigor and period while seeking to achieve the expected yield. Drake and Hall (2013) note that efficiency of firm suggests better profitability, huge amounts of resources directed in, better charges and service value

for customers and better security in terms of enhanced wealth buffer in engrossing peril.

The information got from evaluation of the firm's performance can be utilized in improving the general competence of processes and in turn, this might contribute towards realizing a viable verge (Hasan and Marton, 2009). Charge efficiency looks at the charge expenses of firm (interest plus noninterest expenditures) as a purpose of designated variables supposed to effect the cost arrangement of firms and a price remaining, which replicates the prices that cannot be clarified by the firm. These unsolved prices are presumed to be a quantity of a firm's additional expenses or rate incompetence. Study will measure efficiency using cost efficiency which will be computed by dividing total operating expenses divided by total income.

2.4 Empirical Review

This section consists of both the local and global empirical studies that support the connection amid capital structure and profitability of companies in different subdivisions. Below is the discussion:

2.4.1 International Studies

Abor (2005) examines connection amid of capital structure and profitability of registered companies on the Ghana Stock Exchange. The research used a descriptive research. Panel data for a period of ten years was used, this covered between (1995-2004). The regression results concluded that there was a affirmative connection amid the proportion of short-term debt to total assets and ROE and negative connection amid proportion of long-term debt to total assets and ROE.

Chiang et al. (2009) piloted a research on the effect of capital structure on profitability of registered companies in Hong Kong. The research adopted a descriptive research design. The study used as sample of 35 firms and panel data was used for investigation. The consequences of the investigation found there was a significant connection amid capital structure and profitability of non-financial registered companies on Islamabad Stock Exchange.

Gleason (2009) investigated relationship amid capital structure besides financial performance of 14 European nations which are congregated into 4 ethnic groups. Descriptive study was used to explain the connection between the variables. The research used panel data of financial and non-financial firms. Using together monetary and functioning events of presentation, it is revealed that capital structure effects monetary performance, though not wholly. An undesirable connection amid capital structure and presentation proposes that agency matters possibly will lead to consumption of sophisticated than suitable ranks of debt in the capital structure, thus creating lesser presentation.

Mendell et al. (2011) examined financing practices across firms in the forest products industry by reviewing the connection among debt and duties theorized in finance model. In testing the theoretical connection among taxes and capital structure for 20 openly operated forest industry companies for the ages 1994-2003, the study find a undesirable connection among profitability and debt, a constructive connection among non-debt levy armors and debt, and a undesirable connection among company scope and obligation.

Gill and Nahum (2013) examined the influence of capital structure on profitability of the American service and manufacturing firms. A sample of 272 American listed companies on New York Stock Exchange for a period of 3 years from 2005 – 2007 was selected. The correlations and regression analyses were used to approximate the purposes connecting to profitability (measured by return on equity) with measures of capital structure. The consequences display a affirmative connection among short-term debt to total assets and profitability and between total debt to total assets and profitability in the service industry. The results of this paper illustrate also a optimistic relationship between short-term debt to total assets and profitability, long-term debt to total assets and profitability, and among entire debt to total assets and profitability in the manufacturing industry.

2.4.2 Local Studies

Munene (2006) evaluated the influence of profitability on capital structure of businesses listed at NSE. The study used a descriptive research design. Secondary informations was used for a retro of six centuries from 1999 to 2004. Statistics examination was done using a regression model and the outcomes found that profitability alone cannot account for variations in the capital structure of listed companies at the Nairobi Securities Exchange.

Ondiek (2010) evaluated the link between capital structure in addition to monetary presentation of listed firms at the Nairobi Securities Exchange. A descriptive research design was used to find out the relationship between capital structure and financial performance of listed firms. Secondary informations was used for a retro of five

centuries . Study revealed that capital structure was influenced by asset tangibility, size of the firm and profitability**.**

Kuria (2013) studied on the effect of capital structure on the financial performance of commercial Banks in Kenya. The study was piloted on 35 commercial banks in Kenya which were in operation in Kenya for five years of study from 2008 to 2012. The various ratios of these commercial banks were computed from the various data collected from the data extracted from their financial statement for the period. The data was analyzed using a linear regression model using to establish if there is any significant relationship of capital structure and the financial performance of these commercial banks. The finding of the analysis concluded that there was no significant relationship between the capital structure and the financial performance of commercial banks in Kenya.

Gichangi (2014) assessed the connection among capital structure and profitability of registered non monetary companies in Kenya. Target inhabitants of the study was 40 listed non monetary firms. A census of non-financial firms was used. The study used secondary data extracted from annual financial reports. Descriptive data analysis techniques and regression were used to analyze the data. The long-term liability to equity indicated an inverse relationship to profitability at -5.70%, with an adjusted coefficient of determination of 97.80%. A negative relationship between capital structure and profitability was found to exists.

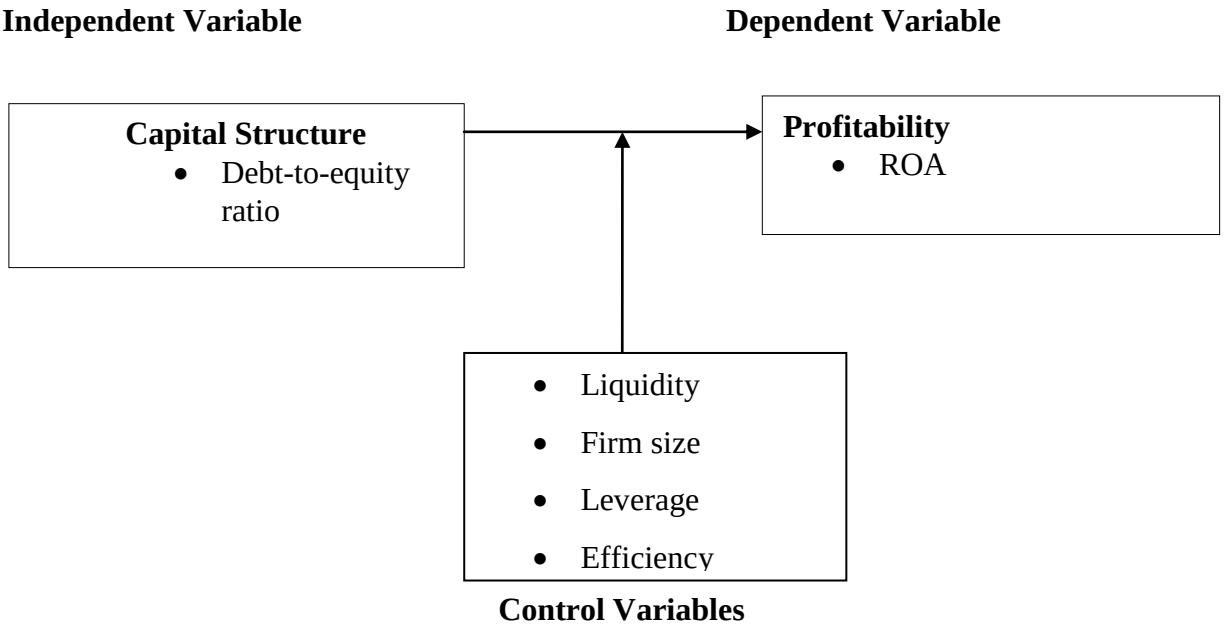
Tale (2014) investigated the link among capital structure and financial performance of non-financial registered firms at the Nairobi securities exchange in Kenya between the period January 2008 to December 2013. The study population consisted of all the

40 non- financial listed firms and duly registered with capital market authority. Secondary information used was got from financial statements of listed firms. Data was analyzed using a regression model. Financial performance was established to be absolutely connected to debt-to-equity proportion.

2.5 Conceptual Framework

The Figure 2.1 depicts the relationship between capital structure and profitability of listed firms. Control variables include: Liquidity, Firm Size, Leverage and Efficiency.

Figure 2.1: Conceptual Framework



2.5 Summary of the Literature Review

It can be established that capital structure is a share of monetary structure specifically concerned with making the collection of the sources of the reserves in a appropriate way, which is in comparative greatness in addition to quantity. Firms should make

accurate decisions when financing various projects in the firm in a manner that ensures an optimal capital structure to boost profitability. Theories of that support this studies supports the argument that companies must attempt towards achieving an optimal capital structure through obtaining a suitable share amongst retained and debt capital. This rest on the monetary strategy of specific companies.

Studies on relationship between capital structure and profitability of registered companies show mix-up of their relationships. Examples include: Kuria (2014), Gichangi (2014), Tale (2014), Gleason (2000) and Gill et al. (2013). These studies are inconclusive and fail to agree on the connection amongst capital structure in addition to profitability of listed financial companies in the Nairobi Securities Exchange. The study finds a need to address this gap by attempting to establish the relationship between capital structure and profitability of registered companies at Nairobi securities Exchange.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides methodology that was applied to achive the study objective. Consists of research design, population,data collection,data analysis,analytical model and tests of significance.

3.2 Research Design

Kothari (2004) notes that a research design involves preparation of the circumstances for gathering and examination of statistics in a way that strives to achieve significance to the study drive. A plan involves a preparation of what is to be done from writing the hypothesis all through to analysis of data. Kothari (2004) notes that a sresaerch design is a blue print for gathering, measuring and analyzing data. This design allowed the researcher to find an answer to a research question (Kerlinger, 1973). The study utilized a descriptive research design. The choice of this design was because it was useful in depicting the relationships between varialbles. This form of design also allowed to describe the behaviour of the variables without influencing them.

3.3 Population

Population refers to an whole collection of persons, proceedings or objects obligating shared features that can be observed and measured (Singh and Nath, 2010). At present there are 67 listed firms in the Nairobi Securities Exchange. The firms were categorized in elevent sectors as presented in Appendix I.

3.4 Data Collection

The study used secondary data which was gotten from yearly informations published by Capital Markets Authority. The collected data was reviewed for completeness and consistency in order to carry out statistical analysis. The study covered a period of five years (2011-2015) which was considered adequate in establishing the association amid capital structure and profitability of registered companies. Firms that have been actively involved in trading for the last five years were considered for data collection.

3.5 Data Analysis

The data collected was sorted and organized before capturing the same in Statistical Packages for Social Sciences for analysis. Inferential statistics was used for analysis of data. Inferential statistics which includes Pearson's Coefficient and Regression Analysis required to establish the level of reliability and consistency of findings. Mean stardard deviation,minimum value and maximum value were decriptive statistics which were utilized to establish the trend and patterns of the study variables.

3.5.1 Analytical Model

To attain the objective of this study, a multivariate regression model was used to establish the connection amongst capital structure plus profitability of listed firms at Nairobi Securities Exchange. A multiple regression model was applied consisting of six independent variables. The independent variable was capital structure, the control variables included: firm size, leverage and efficiency. The dependent variable was profitability. This sought to extend the model advanced by Rajan & Zingales (1995) and Tale (2014).

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + \varepsilon$$

Y= Profitability was measured using return on asset which is net income divided by total assets (Dependent variable).

a =Y-intercept

b_1, b2, b3 and b4 are the regression coefficients

X_1= Capital structure was measured using capital structure ratio = long term debt / (shareholders equity + long term debt).

Control variables included

X_2= Operating efficiency was measured using operating costs divided by total income.

X_3= firm size which was measured using natural logarithm of total assets.

X_4 = Leverage which was measured using long-term liabilities divided by total assets.

b= Slope of the regression, it measures unit change in Y associated with a unit change in X

ε=is the error term within a confidence interval of 5 percent.

3.5.2 Tests of Significance

Null hypothesis assumed there was no nexus amid capital structure and profitability of registered companies. Alternate theory assumed there was a link amid of capital structure and profitability. The level of significance was expressed using p-values. If the p-value(s) was more than 5 percent then the null hypothesis was true since this meant there was no noteworthy association amid capital structure and profitability of registered businesses. Further, if the p-value was fewer than 5 percent then, alternative hypothesis was true; this meant there was existence of a significant link amid capital structure and profitability.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter outlines analyzed statistics that have been carried out using descriptive statistics and regression analysis. The analysis was excuted objectively to establish an exact link that existed between capital structure and profitability of listed firms at NSE.

4.2 Descriptive Statistics

Included in this section was trend of analysis of the study variables in the study period. This gave a pattern ranging from minimum to maximum values as well as the mean scores of the variables to find out how they related to capital structure and profitability. The outcomes are shown in Table 4.1

Table 4.1 Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	180	-.10	.08	.0277	.02500
Capital structure	180	.00	.51	.1681	.14234
Operating efficiency	180	.01	.78	.2974	.18311
Firm size	180	11.35	19.06	15.5198	1.59704
Leverage	180	.04	1.07	.4656	.18541
Valid N (listwise)	180				

The outcome in Table 4.1 found that listed firms increased in profitability in the study period from -.10 to .08 which mean score was .028. The capital structure ratio increased from.00 to .51, this attained a mean score of .1681. Operating efficiency rose from .01 to .78 and attained mean score of .2974. The mean score of firm size of listed firms increased tremendously to 19.06. This can be attributed to profitability of

listed firms that enabled them to generate income from their base of assets. Leverage increased in the study period from .04 to 1.07 with mean of .4, meant that listed listed accumulated high amounts of debts to finance their assets.

4.3 Inferential Statistics

The study utilized inferential statistics to examine the strength of the relationship that existed amid capital structure and profitability of registered companies.

4.3.1 Pearson Correlation

A pearson correlation investigation measures the strength that exists in a linear relationship between variables that are continuous. The output is presented in Table 4.2 below.

Table 4.2 Pearson Correlation Coefficient

	ROA	Capital strcture ratio	Operating efficiency	Firm size	Leverage
ROA	1				
Capital structure	.085	1			
Operating efficiency	-.369**	-.369**	1		
Firm size	-.204**	.420**	.120	1	
Leverage	-.302**	.403**	.702**	.442**	1

The output in Table 4.3 found there was linear connection amid capital structure, firm size and leverage with profitability of registered companies.Correlation scores attained .085, --.204 and -.302 respectively. However, operating efficiency was weakly related to profitability of listed firms. The correlation score attained was as follows: -.369.

4.4 Regression Analysis

Regression analysis was implemented to test link between capital structure and profitability of registered companies.Outcome is presented in Table 4.3

Table 4.3 Model Coefficient

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.423[a]	.179	.160	.02292

a. Predictors: (Constant), Leverage , Capital structure ratio, Firm size, Operating efficiency

The independent variables explained 18% change in profitability of listed firms. This meant that the model was not reliable.

Table 4.4 Analysis of Variance

Regression model was tested for significance, the outcome is depicted in Table 4.4 below.

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.020	4	.005	9.521	.000[b]
	Residual	.092	175	.001		
	Total	.112	179			

a. Dependent Variable: ROA

b. Predictors: (Constant), Leverage , Capital structure ratio, Firm size, Operating efficiency

The results in Table 4.4 depict that the regression model implemented in this study was significant. This was because its p-value was lower than 5 % , .000.

Table 4.5 Model Coefficients

Coefficients[a]						
		Unstandardized Coefficients		Standardized Coefficients		
Model		B	Std. Error	Beta	t	Sig.
1	(Constant)	.082	.018		4.626	.000
	Capital structure ratio=x_1	.592	.323	3.372	1.833	.069
	Operating efficiency=X_2	.540	.323	3.954	1.672	.096
	Firm size=X_3	-.003	.001	-.167	-2.089	.038
	Leverage=X_4	-.588	.324	-4.362	-1.814	.071
a. Dependent Variable: ROA						

The researcher got the follow regression model as shown below:

$ROA= .082-.003X_3+\varepsilon$

Capital structure, operating efficiency and leverage were omitted from the regression model since they were found to be insignificant. Their p-values were found to be more than 5%, .069, .096 and .071. Firm size found to be significant because its p-value was less than 5%, .038.

Capital structure ratio and operating efficiency were positively related to profitability as follows: .592 and .540 respectively. Meaning that an element increase in these variable led into a corresponding rise in profitability.

4.5 Discussion and Findings

Descriptive results shows that listed firms were profitable in the study period; they attained mean score of .028. These firms were found to have more debts as compared to equity in the study period. The mean score stood at .028. Similarly, the firms were found to enhance their level of operating efficiency to a mean score of .3, this explained why the firms increased in their size to 19.05. Listed firms generated

income which was attributed to increased cost saving and use of debt to finance assets. The average mean for leverage stood at .5 which was an indication that listed firms accumulated high amounts of debts to finance assets. These findings correspond with Kuria (2013) who found that listed firms utilized more debts in the study period.

There lacked correlation between capital structure, firm size and leverage with profitability of listed firms. Correlation values were: .085, -.204 and -.302. Operating efficiency was weakly correlated to profitability of listed firms; this attained a correlation score of -.369. The findings conform to Gichangi (2014) who found that capital structure was negatively correlated to profitability.

The results found that independent variables explained 18% change in profitability of listed firms. This implied that the model was unreliable. Capital structure ratio, operating efficiency and leverage were insignificant for the reason that their probability values were less than 5%, .069, .096 and .071. The results are supported by Tale (2014) who established that capital structure was insignificantly related to financial performance Firm size was significant because its p-value was lower than 5%, .038. The results agree with the findings of Kuria (2013) who found that firm size was significant. Operating efficiency and capital structure were related positively to profitability. However, firm size and leverage were related negatively to profitability. These results are conform with the observations of Kuria (2013) who found that capital structure was positively related to fiscal presentation.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION, RECOMMENDATIONS

5.1 Introduction

The chapter covers summarized results, conclusion and suggestions for further research that have been done going by the objective of this study.

5.2 Summary of Findings

Going by objective of the study, descriptive results found that majority of the listed firms made profits. This was because most of them attained profitability score of .028. This was attributed to reduction of financing costs since firms were able to retain more profits as compared to use of equity. This explains why the operating efficiency increased with a huge margin from .01 to .78. Firm size increased rapidly with a margin of 7.71, this was attributable to increase in profitability and use of leverage that rose with a margin of 1.03, from 0.4 to 1.07. These findings comply with a study by Gill and Nahum (2013) who found that that use of leverage minimized financing costs while it contributed to profitability.

The findings confirmed that there was correlation between capital structure, firm size and leverage with profitability of listed firms (.085, -.204 and -.302). The outcomes are supported by the study of Gill and Nahum (2013) they observed that there lacked correlation between capital structure and profitability. Operating efficiency was weakly correlated to profitability (-.369). These findings are agreement with Gichangi (2014) who observed that operating efficiency was significant.

Coefficient of determination attained 18%. The implication of this was that the independent variables explained only eighteen percent variance in profitability. These findings contradict a study by Kuria (2013) who found that the independent variables explained .68% of the changes in financial performance. Analysis of variance showed that regression model was important since the p-value was less than 5%, .000. The findings conform to Mendell and Mishra (2011) who found that the regression model utilized was statistically significant. Findings concluded that capital structure and profitability were insignificant. These findings were supported by Tale (2014) and Kuria (2013) and Ondiek (2010) who concluded that capital structure and financial performance were insignificant

5.3 Conclusion

The study concluded that listed firms were profitable and efficiency in the study period. Based on the findings, the firms utilized debt which minimized their cost of financing and operational costs. There lacked a correlation amid capital structure, firm size, leverage and profitability of listed companies. Operating efficiency was found to be weakly correlated to profitability.

It was also concluded that the independent variables explained only eighteen percent variance in profitability of listed firms.. The regression model implemented was found to be significant. It was concluded that there existed an insignificant link amid capital structure and profitability of registered companies. Capital structure and operating efficiency were found to be positively related to profitability of listed firms.

5.4 Policy Recommendations

The study recommends that a well-adjusted combination of debt and equity should be established so as to ensure that the firm maintains capital adequacy. Firms can thus be able to meet their financial compulsions and grasp investments that can promise attractive returns.

Listed firms should exhaust their retained earnings before they can decide to utilize other forms of investment such as debt and leverage. This will ensure maximize utilization of available funds and accurate choice of investment while minimizing wasteful spending.

Top management should explore investment decisions before deciding on the best investment to make. This will ensure that firms investment in priority areas based on the funds available and enhance maximum utilization of available funds.

5.5 Limitations For the Study

Time and resources were hindrances that lead to use 36 listed firms. The findings might have been more accurate if the study had investigated firms that have been listed and actively been trading at the Nairobi Securities Exchange.

Because of time contraints it could have been approapriate for the researcher to excute an exploratory study to discover the 'cause and effect' on the link amid capital structure and profitability. This might have given more insights on the long-term sustainability of capital structure and how its contribution towards profitability.

There are other factors that affect profitability of listed firms other than those decribed in the study (liquidity, firm size, leverage and efficiency). They include diversification and management efficiency index that have not been discussed in this study. This are

important factors that might have been considered in this study to enhance its level of accuracy.

This research was limited to a duration of five years only. This duration was insufficient in establishing an accurate and reliable connection amid capital structure and profitability. A duration of say fifteen or twenty years could have been more accurate in finding out the link between the variables.

5.6 Suggestions for Further study

A replica of this research study should be conducted in another sector such as the manufacturing sector to find out if similar results will hold. Financial leverage varies significantly by industry. Resaerchers can compare findings and make a logical conclusion.

A related study can be done using return on equity as the dependent variable being an important profitability measure that compares a firm's profitability annually in relation to the money raised by the shareholders. The aim of any company is to make best use of the wealth of shareholders and return on equity is a measure of return realize from the investment made by the shareholders.

As a result of technological changes and regulatory framework it is advisable that future researchers should conduct a comparable study after a long duration of time like 20 years. Hence, do a contrast and draw conclusive results that are built on facts.

REFERENCES

Abor, J. (2005). The effect of capital structure on profitability: an empirical analysis of listed firms in Ghana, *Journal of Risk Finance*, 6(5), 16-30

Azhagaiah, R. & Candasamy, G. (2011). The impact of capital structure on profitability with special reference to it industry in India, *Managing Global Transitions* 9 (4), 371–392.

Berger, A.N. & De Young, R. (2010). Problem loans and cost efficiency in commercial banks, *Journal of Banking and Finance*, 21, 849-870.

Booth, L., V. & Aivazian, A. (2001). Capital Structures in Developing Countries, *Journal of Finance* 56, 87-130.

Brealey, R.A. & Myers, S.C. (2003). P*rinciples of corporate finance, international ed*., McGraw-Hill, Boston, MA.

Champion, D. (2000). Finance: the joy of leverage, *Harvard Business Review*, 77. 4, 19-22.

Chandrakumarmangalam, S. & Govindasamy P. (2010), Leverage- An analysis and its impact on profitability with reference to selected cement companies in India, *European Journal of Economics, Finance and Administrative Sciences,* 27, 1450-2275

Chiang, Y. & Chuang, Li., M. (2009). Capital structure on profitability of listed firms in Hong Kong, *Journal of Finance*, 2, 1, 34-45

Chittenden, F., Hall, G. & Hutchinson, P. (1996). Small firm growth, access to capital markets and financial structure: review of issues and an empirical investigation, *Small Business Economics*, 8 1, 59-67.

Drake, L. & Hall, M.J.B (2013). Efficiency in Japanese banking: An empirical analysis, *Journal of Banking and Finance*, 27: 891–917

Fama, E.F. & French, K. R. (1998). Taxes, financing decisions, and firm value, *Journal of Finance*, 53, 819-43.

Friend, I. & Lang, H.P. (1995). An empirical test of the impact of managerial self-interest on corporate capital structure, *Journal of Finance*, 43,271-81.

Gichangi, A. (2014) studied the relationship between capital structure and profitability of listed non-financial firms in Kenya, *Unpublished MBA Projects*, School of Business, University of Nairobi

Gill, A. & Nahum, B. (2013). The effect of capital structure on profitability. Evidence from the United States, *International Journal of Management*, 28, 4, 1, 3-15.

Gleason, A. (2009). The relationship between capital structure and financial performance, *Journal of Finance*, 12(3), 19-29

Graham, J.R. (2000). How big are the tax benefits of debt, *Journal of Finance*, 1901-41.

Hadlock, C.J. & James, C.M. (2002). Do banks provide financial slack, *Journal of Finance*, 57, 1383-420.

Hasan, I., & Marton, K. (2009). Development and efficiency of the banking sector in a transitional economy: Hungarian experience, *Journal of Banking and Finance*, 27, 2249-2271.

Jensen, M. & Meckling, W. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure, *Journal of Financial Economics*, 3, 305-60.

Jonsson, B. (2007). Does the size matter? The Relationship between size and profitability Of Icelandic Firms, *Bifrost Journal of Social Sciences*, 1, 43-55.

Kerlinger, F.N. (1973). *Foundations of behavioral research*, New Delhi: Surjeet, Publications

Khan, Y. & Jain, K. (2003).*Financial Management Text and Problems*, Tata McGraw Hill Publishing Company Limited, New Delhi

Kothari, C. K. (2004). *Research methodology, methods and technique*, New Delhi: New Age International Limited Publishers

Kumar, K.B. Rajan, R.G. & Zingales, L. (2001). What determines firm size, *working paper*, University of Chicago.

Kuria, T, (2013) did a study on the effect of capital structure on the financial performance of commercial Banks in Kenya, *Unpublished MBA Projects*, School of Business, University of Nairobi

Lamont, O.A. & Polk, C. (2002). Does diversification destroy value, evidence from the industry shocks, *Journal of Financial Economics* 63, 51-77

Maheshwari, N. (2001).*Principles of Management Accounting*, Sultan hand 7 Sons, New Delhi

Maksimovic, V. & Phillips, G. (2002).Do conglomerate firms allocate resources inefficiently across Indus- tries, *Theory and Evidence, the Journal of Finance*, 57, 721-767.

Mendell, B.C. & Mishra, N., (2011). Capital structure in the United States forest products industry, the influence of debt and taxes, *Forest Science*, 52(5), 540-548.

Miller, M.H. & Modigliani, F. (1966). Some estimates of the cost of capital to the electric utility industry, 1954-57, *American Economic Review*, 56 3, 333-91.

Miller, M.H. (1977). Debt and taxes, *Journal of Finance*, 32, 261-76.

Modigliani, F. & Miller, M. (1958). The cost of capital, corporate finance and the theory of investment, *American Economic Review*, 48, 261-97.

Mugenda, O. & Mugenda, A. (2005). Research methods: *quantitative and qualitative approaches*.2nd, Nairobi: Act press

Munene, K. (2006). Impact of capital structure on the performance of listed firms at the Nairobi Securities Exchange, *Unpublished MBA project*, School of Business, University of Nairobi

Myers, S.C. & Majluf, N. (1984). Corporate financing and investment decisions when firm have information that investors do not have, *Journal of Financial Economics*, 13, 187-221.

Myers, S.C. (1977). Determinants of capital borrowing, *Journal of Finance Economics*, 5, 5147-75.

Myers, S.C. (1984).The capital structure puzzle, *Journal of Finance*, 39, 575-92.

Ondiek, B. (2010). The relationship between capital structure and financial performance of listed firms at NSE, *Unpublished MBA project*, School of Business, University of Nairobi

Padachi, K. (2006). Trends in working capital management and its impact on firms' performance: an analysis of Mauritian small manufacturing firms, *International Review of Business Research Papers*, 2(2), 45-58.

Petersen, A. & Kumar, V. (2010). Can product returns make you money, *MIT Sloan Management Review*, spring, 51(3): 8

Rajan, R.G. & Zingales, L. (1995). What do we know about capital structure, some evidence from international data, *Journal of Finance*, 50, 1421-60.

Robb A. & Robinson, D.T. (2009). The capital structure decision of new firms[Online].*Available:http://papers.ssrn.com/so13/papers.cfm?abstract-id=1345895 [Accessed: 9 setptember2016]*

Ruland, W. & Zhou, P. (2011), Debt, diversification and valuation, Review of *Quantitative, Financial. Accounting*, 25(3); 277-291

Sarkar, S., & Zapatero, F. (2003). The trade-off model with mean reverting earnings: Theory and Empirical Test, *The Economic Journal*, 113, 490, 834–60.

Singh, Y. K., & Nath, R. (2010). *Research methodology*, New Delhi: A. P. H. Publishing Corporation

Srivastava, K. & Srivastava, K. (2006). Managing Product Returns for Reverse Logistics, *International Journal of Physical Distribution and Logistics Management*, 36(7):524-546.

Staking, K.B., & Babbel, D. F. (1995). The relation between capital structure, interest rate sensitivity and market value in the property-liability insurance industry, *Journal of Risk and Insurance*, 62(4), 690-718.

Tale, N. (2014). Relationship between capital structure and performance of non-financial listed firms at the Nairobi securities exchange, *Unpublished MBA project*, School of Business, University of Nairobi

Titman, S. & Wessels, R. (2001). The determinants of capital structure choice, *Journal of Finance*, 43, 1, 1-19.

Titman, S. & Wessels, R. (2001). The determinants of capital structure choice, *Journal of Finance*, 43, 1, 1-19.

Wald, J.K. (1999). How firm characteristics affect capital structure: an international comparison, *Journal of Financial Research*, 22, 2,161-87.

Williamson, O. (2001). Corporate finance and corporate governance, *Journal of Finance*, 43, 567-91

APPENDIX I: LETTER OF INTRODUCTION

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS

Telephone: 020-2059162
Telegrams: "Varsity", Nairobi
Telex: 22095 Varsity

P.O. Box 30197
Nairobi, Kenya

DATE 28/9/2016

TO WHOM IT MAY CONCERN

The bearer of this letter ... LILIAN MBARI GICHUHI

Registration No. D61/68853/2016

is a bona fide continuing student in the Master of Business Administration (MBA) degree program in this University.

He/she is required to submit as part of his/her coursework assessment a research project report on a management problem. We would like the students to do their projects on real problems affecting firms in Kenya. We would, therefore, appreciate your assistance to enable him/her collect data in your organization.

The results of the report will be used solely for academic purposes and a copy of the same will be availed to the interviewed organizations on request.

Thank you.

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS
28 SEP 2016
P.O Box 30197 - 00100, NAIROBI

PATRICK NYABUTO
SENIOR ADMINISTRATIVE ASSISTANT
SCHOOL OF BUSINESS

APPENDIX II: COMPUTED MEASUREMENTS FOR THE STUDY VARIABLES

Firms	Leverage effect(TL/TA)	Capital structure	Operating Efficiency	ROA	Firm size
EAAGADS - 01	0.25	0.23	0.02	0.04	12.47
	0.3	0.21	0.09	0.068	12.53
	0.25	0.21	0.04	0.072	12.78
	0.16	0.15	0.01	0.05	13.26
	0.2	0.12	0.07	0.037	13.12
KAPCHORUA TEA - 02	0.41	0.23	0.18	0.064	13.97
	0.45	0.18	0.28	0.058	14.22
	0.38	0.2	0.17	0.046	14.27
	0.42	0.19	0.23	0.042	14.49
	0.38	0.2	0.19	0.022	14.55
Limiuru tea 03	0.34	0.14	0.2	0.036	11.35
	0.25	0.18	0.07	0.046	11.97
	0.22	0.19	0.03	0.042	12.16
	0.24	0.21	0.03	0.022	12.68
	0.16	0.15	0.01	0.036	13.26
REA VIPINGO 04	0.31	0.15	0.16	0.036	14.16
	0.42	0.16	0.26	0.046	14.35
	0.36	0.17	0.19	0.064	14.64
	0.28	0.17	0.11	0.031	14.68
	0.25	0.17	0.08	0.042	14.84
SASINI-05	0.29	0.24	0.05	0.023	15.89
	0.28	0.23	0.06	0.014	16.02
	0.29	0.22	0.06	0.02	16.06
	0.28	0.21	0.07	0.012	16
	0.3	0.21	0.08	0.028	16.02
WILLIAMSON-06	0.33	0.2	0.12	0.043	15.18
	0.35	0.17	0.18	0.021	15.49
	0.29	0.18	0.11	0.028	15.61
	0.32	0.18	0.14	0.041	15.8
	0.27	0.18	0.09	0.046	15.9
CAR AND GENERAL-07	0.59	0.07	0.52	0.028	14.98
	0.6	0.07	0.53	0.029	15.17
	0.65	0.1	0.56	0.016	15.53
	0.62	0.11	0.51	0.038	15.56
	0.64	0.09	0.55	0.019	15.75
CMC HOLDINGS - 08	0.6	0.03	0.57	0.014	16.4
	0.63	0.03	0.6	0.012	16.5
	0.65	0.03	0.62	0.005	16.5
	0.56	0.05	0.5	0.024	16.38

	0.53	0.05	0.47	0.013	16.32
MARSHALLS E.A. - 09	0.67	0.23	0.44	0.02	14.18
	0.88	0.38	0.51	0.006	13.93
	0.63	0	0.63	0.01	13.89
	0.31	0	0.31	0.0365	13.25
	0.45	0.02	0.43	0.051	13.15
SAMEER GROUP - 10	0.33	0.04	0.29	0.0367	14.91
	0.37	0.05	0.32	0.0411	14.98
	0.44	0.06	0.38	0.0472	15.01
	0.38	0.05	0.33	0.0233	14.97
	0.31	0.04	0.26	0.0286	14.94
EXPRESS KENYA LTD – 11	0.68	0.3	0.38	0.0263	14.08
	0.71	0.3	0.41	0.0325	14.11
	0.46	0.26	0.19	0.0367	13.55
	0.6	0.27	0.33	0.0636	13.11
	0.59	0.25	0.34	0.0109	13.08
KQ-12	0.77	0.49	0.28	0.0184	18.13
	0.73	0.45	0.28	0.0097	18.11
	0.71	0.42	0.28	0.0298	18.18
	0.7	0.4	0.31	0.022	18.16
	0.75	0.33	0.41	0.0169	18.63
NATION MEDIA - 13	0.29	0	0.29	0.0406	15.21
	0.32	-	0.32	-0.033	15.89
	0.31	0.02	0.29	0.0175	15.99
	0.31	0.01	0.3	0.0236	16.18
	0.28	0.01	0.27	0.0222	16.25
SCAN GROUP - 14	0.4	0	0.4	0.0077	15.18
	0.55	0.02	0.53	0.0165	15.9
	0.49	0.04	0.45	-0.034	15.95
	0.43	0.04	0.39	0.0179	15.94
	0.36	0.03	0.33	0.0054	16.36
STANDARD GROUP - 15	0.58	0.3	0.28	0.0184	14.92
	0.54	0.22	0.31	0.0076	15.01
	0.53	0.19	0.34	0.0131	15.07
	0.47	0.16	0.32	0.034	15.07
	0.51	0.17	0.34	0.0242	15.24
TPS SERENA GROUP - 16	0.42	0.28	0.14	0.0258	15.76
	0.37	0.23	0.14	0.0205	16.29
	0.39	0.26	0.12	0.0242	16.39
	0.39	0.24	0.15	0.0152	16.42
	0.32	0.18	0.14	0.0408	16.6
UCHUMI - 17	1.07	0.34	0.74	0.0109	14.71
	0.51	0.1	0.41	0.0152	14.96

	0.43	0.05	0.39	0.0076	15.2
	0.46	0.02	0.45	0.015	15.41
	0.48	0.04	0.44	-0.098	15.53
ATHI RIVER MINING - 18	0.66	0.38	0.28	-0.009	16.31
	0.7	0.51	0.19	0.077	16.62
	0.7	0.49	0.22	0.055	16.84
	0.74	0.49	0.24	0.06	17.11
	0.72	0.48	0.24	0.058	17.21
BAMBURI-19	0.44	0.05	0.39	0.047	13.91
	0.54	0.04	0.5	0.041	14.49
	0.52	0.04	0.48	0.055	14.61
	0.48	0.02	0.46	0.049	14.63
	0.54	0.01	0.53	0.046	14.9
CROWN PAINTS - 20	0.55	0.05	0.5	0.07	14.44
	0.54	0.04	0.5	0.036	14.49
	0.52	0.04	0.48	0.048	14.61
	0.48	0.02	0.46	0.058	14.63
	0.54	0.01	0.53	0.029	14.9
EAST AFRICAN CABLES – 21	0.53	0.18	0.35	0.038	15.08
	0.5	0.19	0.31	0.019	15.32
	0.54	0.13	0.42	0.04	15.42
	0.53	0.13	0.41	0.041	15.65
	0.55	0.15	0.4	0.02	15.73
EAST AFRICAN PORTLAND - 22	0.49	0.37	0.13	0.043	16.3
	0.53	0.37	0.15	0.029	16.3
	0.58	0.43	0.16	0.042	16.41
	0.67	0.5	0.17	0.062	16.45
	0.56	0.35	0.21	0.043	16.6
KENGEN - 23	0.41	0.36	0.05	0.027	18.54
	0.53	0.49	0.05	0.016	18.83
	0.57	0.5	0.07	0.03	18.9
	0.57	0.48	0.09	0.028	18.91
	0.61	0.51	0.09	0.025	19.06
KENOL/KOBIL - 24	0.67	0.01	0.66	0.018	17.2
	0.63	0.01	0.62	0.023	17.23
	0.75	0.03	0.71	0.018	17.64
	0.8	0.03	0.78	0.025	17.3
	0.76	0.03	0.74	0.01	17.15
KPLC - 25	0.62	0.37	0.26	0.012	18.09
	0.64	0.41	0.23	0.013	18.2
	0.67	0.42	0.25	0.014	18.6
	0.68	0.44	0.23	0.01	18.71

	0.73	0.51	0.22	0.005	18.99
TOTAL KENYA - 26	0.72	0.13	0.59	0	17.27
	0.68	0.12	0.56	-0.008	17.23
	0.74	0.09	0.65	-0.075	17.38
	0.57	0.03	0.54	-0.033	17.31
	0.62	0.03	0.59	0.0593	17.5
CENTUM - 27	0.04	-	0.04	0.0726	15.7
	0.05	-	0.05	0.0642	15.93
	0.22	0.16	0.06	0.0443	16.33
	0.13	0.1	0.03	0.0544	16.26
	0.28	0.26	0.02	0.0564	16.76
OLYMPIA - 28	0.29	0.05	0.25	0.0431	13.58
	0.39	0.12	0.27	0.0447	13.79
	0.4	0.09	0.3	0.0444	13.89
	0.43	0.27	0.16	0.0257	14.44
	0.43	0.3	0.14	0.0522	14.46
NSE-29	0.13	0	0.12	0.0308	12.62
	0.15	-	0.15	0.0435	12.91
	0.1	-	0.1	0.0475	13.07
	0.44	0.32	0.12	0.0424	13.69
	0.36	0.12	0.25	0.019	13.95
BOC KENYA-30	0.24	0.05	0.2	0.0418	14.44
	0.26	0.05	0.21	0.0374	14.46
	0.27	0.02	0.25	0.0461	14.41
	0.27	0.01	0.26	0.0208	14.51
	0.21	0	0.21	0.0529	14.78
BAT-31	0.56	0.12	0.44	0.0368	16.17
	0.54	0.17	0.37	0.0311	16.22
	0.53	0.15	0.39	0.0563	16.44
	0.53	0.13	0.4	0.0313	16.54
	0.55	0.16	0.4	0.0259	16.65
CARBACID-32	0.15	0.1	0.05	0.0149	14.13
	0.14	0.1	0.04	0.0188	14.23
	0.16	0.13	0.03	0.018	14.37
	0.18	0.1	0.07	0.0033	14.52
	0.13	0.09	0.04	0.0186	14.61
EABL-33	0.35	0.08	0.26	0.0132	17.39
	0.38	0.07	0.3	0.0067	17.46
	0.46	0.15	0.31	0.0073	17.72
	0.84	0.43	0.41	0.0107	17.82
	0.86	0.4	0.45	0.0128	17.89
EVEREADY-34	0.66	0.12	0.54	0.0021	13.61
	0.66	0.08	0.57	-0.0102	13.97
	0.73	0.08	0.65	-0.0182	13.83

	0.7	0.09	0.6	-0.0697	13.96
	0.58	0.11	0.47	-0.0278	13.76
MUMIAS-35	0.43	0.21	0.22	-0.0109	16.68
	0.41	0.23	0.18	0.0501	16.71
	0.38	0.25	0.13	0.0656	16.95
	0.43	0.22	0.21	0.0414	17.13
	0.51	0.2	0.31	0.0501	17.12
UNGA LTD-36	0.43	0.06	0.37	0.0383	15.53
	0.34	0.07	0.27	0.0566	15.44
	0.34	0.06	0.28	0.0356	15.56
	0.38	0.07	0.31	0.0369	15.67
	0.47	0.08	0.39	0.0399	15.91

APPENDIX III: LIST OF LISTED FIRMS IN THE NAIROBI SECURITIES EXCHANGE AS AT DECEMBER 2015

AGRICULTURAL

Eaagads Ltd

Kakuzi Ltd

Kapchorua Tea Co. Ltd

The Limuru Tea Co. Ltd

Sasini Ltd

Williamson Tea Kenya Ltd

AUTOMOBILES & ACCESSORIES

Car & General (K) Ltd

Marshalls (E.A.) Ltd

Sameer Africa Ltd

BANKING

Barclays Bank of Kenya Ltd

CFC Stanbic of Kenya Holdings Ltd

Diamond Trust Bank Kenya Ltd

Equity Group Holdings Ltd

Housing Finance Group Ltd

I&M Holdings Ltd

KCB Group Ltd Ord

National Bank of Kenya Ltd

NIC Bank Ltd

Standard Chartered Bank Kenya Ltd

The Co-operative Bank of Kenya Ltd

COMMERCIAL AND SERVICES

Atlas African Industries Ltd

Express Kenya Ltd

Hutchings Biemer Ltd

Kenya Airways Ltd

Longhorn Publishers Ltd

Nairobi Business Ventures Ltd

Nation Media Group Ltd

Standard Group Ltd

TPS Eastern Africa Ltd

Uchumi Supermarket Ltd

WPP Scan group Ltd

CONSTRUCTION & ALLIED

ARM Cement Ltd

Bamburi Cement Ltd

Crown Paints Kenya Ltd

E.A.Cables Ltd

E.A.Portland Cement Co. Ltd

ENERGY & PETROLEUM

KenGen Co. Ltd

KenolKobil Ltd

Kenya Power & Lighting Co Ltd

Kenya Power & Lighting Ltd 4% Pref 20.00

Kenya Power & Lighting Ltd 7% Pref 20.00

Total Kenya Ltd

Umeme Ltd

INSURANCE

Britam Holdings Ltd

CIC Insurance Group Ltd

Jubilee Holdings Ltd

Kenya Re Insurance Corporation Ltd

Liberty Kenya Holdings Ltd

Pan Africa Insurance Holdings Ltd

INVESTMENT

Centum Investment Co Ltd

Home Afrika Ltd

Kurwitu Ventures Ltd

Olympia Capital Holdings Ltd

Trans-Century Ltd

INVESTMENT SERVICES

Nairobi Securities Exchange Ltd Ord 4.00

MANUFACTURING & ALLIED

A.Baumann & Co Ltd

B.O.C Kenya Ltd

British American Tobacco Kenya Ltd

Carbacid Investments Ltd

East African Breweries Ltd

Eveready East Africa Ltd

Flame Tree Group Holdings Ltd

Kenya Orchards Ltd

Mumias Sugar Co. Ltd

Unga Group Ltd

TELECOMMUNICATION & TECHNOLOGY

Safaricom Ltd

REAL ESTATE INVESTMENT TRUST

STANLIB FAHARI I-REIT. Ord.20.00

Source: NSE, 2015