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

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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…………………………
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DEDICATION

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

I intend to recognize a few people and groups that made this research project a success. To my supervisor, Mr. Mwachiti Ngome Mohamed and moderator, Dr. Cyrus Iraya for their constructive 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.
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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.
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<th>Abbreviation</th>
<th>Description</th>
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<tr>
<td>ASEA</td>
<td>African Securities Exchanges Association</td>
</tr>
<tr>
<td>CMA</td>
<td>Capital Markets Authority</td>
</tr>
<tr>
<td>EASEA</td>
<td>East African Securities Exchanges Association</td>
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<tr>
<td>ETFs</td>
<td>Exchange Traded Funds</td>
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<td>NSE</td>
<td>Nairobi Securities Exchange</td>
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<tr>
<td>ROA</td>
<td>Return on Assets</td>
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<td>ROE</td>
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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 remitted. 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 issued 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 relationship 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 emanate from various conflicts from the stakeholders and self-seeking behavior. The assumptions underlying in this theory for public firms is that the management and employees 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 diversification 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 span 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 thrills 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 assets 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 cheaper source of financing because of tax deductions. Stable firms are more liquidity because they invest in short-term investments that generate free cashflows, 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 described 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. Examples 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 bankruptcy. 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 susceptible 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 asset 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) indicate the presence of an 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

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Dependent Variable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital Structure</td>
<td>Profitability</td>
</tr>
<tr>
<td>- Debt-to-equity ratio</td>
<td>• ROA</td>
</tr>
<tr>
<td></td>
<td>• Liquidity</td>
</tr>
<tr>
<td></td>
<td>• Firm size</td>
</tr>
<tr>
<td></td>
<td>• Leverage</td>
</tr>
<tr>
<td></td>
<td>• Efficiency</td>
</tr>
</tbody>
</table>

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 achieve 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 research design is a blueprint 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 variables. This form of design also allowed to describe the behavior 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 eleven 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 standard deviation, minimum value and maximum value were descriptive 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

b1, b2, b3 and b4 are the regression coefficients

X1 = Capital structure was measured using capital structure ratio = long term debt / (shareholders equity + long term debt).

Control variables included

X2 = Operating efficiency was measured using operating costs divided by total income.

X3 = Firm size which was measured using natural logarithm of total assets.

X4 = 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 executed 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

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

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>
<thead>
<tr>
<th></th>
<th>ROA</th>
<th>Capital structure ratio</th>
<th>Operating efficiency</th>
<th>Firm size</th>
<th>Leverage</th>
</tr>
</thead>
<tbody>
<tr>
<td>ROA</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Capital structure</td>
<td>0.085</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Operating efficiency</td>
<td>-0.369*</td>
<td>-0.369*</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Firm size</td>
<td>-0.204*</td>
<td>0.420*</td>
<td>0.120</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Leverage</td>
<td>-0.302*</td>
<td>0.403*</td>
<td>0.702*</td>
<td>0.442*</td>
<td>1</td>
</tr>
</tbody>
</table>

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 0.085, -0.204 and -0.302 respectively. However, operating efficiency was weakly related to profitability of listed firms. The correlation score attained was as follows: -0.369.
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

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>.423a</td>
<td>.179</td>
<td>.160</td>
<td>.02292</td>
</tr>
</tbody>
</table>

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.

<table>
<thead>
<tr>
<th>ANOVAa</th>
<th>Model</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Regression</td>
<td>.020</td>
<td>4</td>
<td>.005</td>
<td>9.521</td>
<td>.000b</td>
</tr>
<tr>
<td></td>
<td>Residual</td>
<td>.092</td>
<td>175</td>
<td>.001</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>.112</td>
<td>179</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Model</th>
<th>Coefficients&lt;sup&gt;a&lt;/sup&gt;</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B</td>
<td>Std. Error</td>
</tr>
<tr>
<td>1</td>
<td>(Constant)</td>
<td>.082</td>
<td>.018</td>
</tr>
<tr>
<td></td>
<td>Capital structure ratio</td>
<td>.592</td>
<td>.323</td>
</tr>
<tr>
<td></td>
<td>Operating efficiency</td>
<td>.540</td>
<td>.323</td>
</tr>
<tr>
<td></td>
<td>Firm size</td>
<td>-.003</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>Leverage</td>
<td>-.588</td>
<td>.324</td>
</tr>
</tbody>
</table>

<sup>a</sup> Dependent Variable: ROA

The researcher got the following regression model as shown below:

\[ \text{ROA} = .082 - .003X_3 + \varepsilon \]

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 show 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 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 aproapriate 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


APPENDIX I: LETTER OF INTRODUCTION

UNIVERSITY OF NAIROBI
SCHOOL OF BUSINESS

DATE: 9/2016

TO WHOM IT MAY CONCERN

The bearer of this letter... Libas... M. Sebha... G1. Chuhi...

Registration No... 6X/1/67453 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.

PATRICK NYABUTO
SENIOR ADMINISTRATIVE ASSISTANT
SCHOOL OF BUSINESS

28 SEP 2016
APPENDIX II: COMPUTED MEASUREMENTS FOR THE STUDY VARIABLES

<table>
<thead>
<tr>
<th>Firms</th>
<th>Leverage effect(TL/TA)</th>
<th>Capital structure</th>
<th>Operating Efficiency</th>
<th>ROA</th>
<th>Firm size</th>
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<tr>
<td>EAAGADS - 01</td>
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<td>KAPCHORUA TEA - 02</td>
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<tr>
<td>Limuru tea 03</td>
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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