THE RELATIONSHIP BETWEEN CORPORATE DIVERSIFICATION AND CAPITAL STRUCTURE OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE.

BY

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A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR AWARD OF DEGREE OF MASTER OF BUSINESS ADMINSTRATION, SCHOOL OF BUSINESS, UNIVERSITY OF NAIROBI

OCTOBER, 2014

DECLARATION

I, the undersigned, declare that this research project is my original work and it has never been submitted and approved for the award of a degree in any other university.

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D61/72767/2012

This research project has been submitted for examination with my approval as a University Supervisor

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ACKNOWLEDGEMENT

I would like to acknowledge all those who have supported me in taking up this endeavor and have helped me succeed in this research project and generally finding success in life.

First, I would like to thank God the Almighty for the gift of life, blessings, provision of good health and for walking with me all through this journey to make my work a success. I know without strength from Him, I would not be able to get as far as I have in life.

My Supervisor, Dr. Lishenga Josephat, I wish to express my greatest appreciation for your guidance, support and dedication to enable this project materialize. May God bless you abundantly.

To my friends Kimeli, Munene, Mutugi and Jennifer, I am very grateful for your encouragement, help and interactive engagements that were vital for the success of the project. It's my prayer that God rewards you and blesses all the efforts of your hands.

For my siblings, I wish to thank you for your encouragement that helped me soldier on to the end. May God shower you with blessings as we uphold the unity we have always had.

DEDICATION

I dedicate this project to my parents who have always supported me and sacrificed a lot to see that I endeavor to get the best out of education. Dad and Mum, you have always worked hard, loved God, valued education and made understand the value hard work, virtues that I will forever replicate.

ABSTRACT

The objective of the study was to find out the relationship between corporate diversification and capital structure of firms listed in the Nairobi Securities Exchange. This was informed by the fact that in recent years in response to stiff completion, resulting from changes in business environment as well as introduction of competitive policies, many firms have been forced to rationalize their operations and generally review their corporate strategy. Diversification is one of such strategies that allow a company to enter business lines that are different from current operations as well as operate in several economic markets. Financial choices need to be evaluated because of their close interaction with management choices. Optimal capital structure plays a key role in achieving the overriding goal of financial management. The study sought to establish the relationship between diversification on financial choices.

 For firms listed in Kenya scanty research has been done to study the link between diversification and the existing literature is inconclusive. In this study a deductive approach was used. Data was collected on listed firms' annual reports covering the period from 2009 to 2013. The annual reports were obtained from the respective company websites and the Capital Markets Authority. Out of 45 listed companies targeted by the study, after excluding 17 companies in the financial sector due to their balance sheets having a different structure, 36 (80%) firms whose complete data was available were studied. Regression analysis and correlation analysis were used to analyze the data in order to test the research objective. The regression model's coefficient of correlation (R) is 0.382 and coefficient of determination (R^2) is 0.146 implying that 14.6% of the variation in capital structure can be explained by the variables in the study, while 85.6% of the variation can be explained by the error term and other factors. The model is statistically significant as indicated by the F value of 5.943 and significance value of 0.000. The results of the study show that diversification has positive relationship with capital structure. This was consisted with both author's expectations and results from some previous studies. However corporate diversification is a less significant factor in determining capital structure for firms listed in Kenya since the strength of the relationship was found to be very small.

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ABBREVIATIONS

AME - American Express   US - United States

ATS - Automated Trading System

CMA - Capital Markets Authority

DIVE- Diversification

GEMS - Growth Enterprise Market Segment

IPO - Initial Public Offering

LEVE - Leverage

MBA - Market to Book Assets

MBE - Market to Equity Ratio

MFIs - Micro-finance Institutions

MNCs - Multinational Corporations

M&M - Modigliani and Miller

NDTS - Non Debt Tax Shield

NSE - Nairobi Securities Exchange

NYSE - New York Stock Exchange

PERF- Performance

RBV- Resource Based View

ROA- Return On Asset

SIZE - Size

SIC - Standard Industrial Code

SR - Specialisation Ratio

SPSS- Statistical Package for the Social Sciences

TANG -Tangibility

TCE- Transaction Cost Economics

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Diversification and capital structure are two concepts that impact many other aspects of business and financial management. Studies on the interaction between diversification and capital structure become of interest due to their associated strategic implications regarding corporate governance. Financial choices are evaluated because of their close interaction with capital structure and management choices (Rocca, Cariola & Rocca, 2007).

Researchers have begun to investigate the effects that diversification has on capital structure decisions in more recent years (Monteforte & Stagliano, 2011). Different studies have been carried out on the interaction between diversification and capital structure whereby many authors have suggested that diversified firms need to carry greater leverage in order to maximize value of the firm. According to Singh, Davidson III & Suchard (2002) corporate diversification is critical to the growth of a firm and it's a key factor of corporate strategy.

Optimal combination of debt and equity capital plays key role in achieving the overriding goal of financial management. In order to achieve this, it is therefore necessary for firms to determine their target capital structure. This requires that firms to be aware of the various factors that can influence their capital structure decision making (Vries, 2010). This study sought to analyse the role of diversification on financial choices. Thus it sought to explain how the direction of diversification translates into different corporate financial behaviours.

1.1.1 Corporate Diversification

There's a great variation in the way diversification is conceptualized, defined and measured. Matsusaka (2001) defines it as a process by which firms search for new uses of their organizational capabilities. According to Ramanujam & Varadarajan (1989) diversification is the entry of a firm or business unit into new lines of activity, either by process of internal business development or acquisition which entails changes in its administrative structure, systems and other management processes.

Diversification is a means by which a corporation expands its core business into other product markets. Firms spend huge amounts acquiring other firms and/or on research and development to diversify away from their core products/ markets. There are costs and

benefits associated with diversification as in any other economic activity and ultimately a finnrm's performance depends on how well managers achieve a balance between the two (Pandya & Rao, 1998).

Corporate diversification is regarded as a strategic tool for organizations to sustain growth and profitability. Diversification is a key strategic decision as part of an organization's corporate strategy to pursue different markets in expectation of creating enhanced returns and eventually greater profits (Rushin, 2006). Expanding operations in other countries brings a financing advantage to firms. Being multinational has a significant positive effect on a firm's probability of placing a corporate bond in international markets and are less affected by capital market dislocations in their home country than domestic firms (Jang, 2012)

Diversification can be across lines of business or firms can diversify their activities across national boundaries. It can have positive or negative impacts on a firm value (Bodnar, Tang & Weintrop, 1997). Firms diversify for both proactive and defensive reasons (Reed and Luffman, 1986). Once a firm decides to diversify the next step would be to choose the direction in which to diversify. A firm choosing to diversify can be regarded basically seeking ways to modify its business definition so as to better satisfy some set of performance objectives (Ramanujam & Varadarajan, 1989). Diversification strategy can be described by the extent of participation in different businesses and underlying pattern of relationships among various businesses of firms (Nayyar, 1992).

Diversification is measured using specialisation ratio (SR) method. It is a ratio of the firm's annual revenues from its largest discrete core product market (segment) to its total revenues. The logic of the ratio is that it reflects the importance of the firm's core product market to that of the rest of the firm (Pandya & Rao, 1998). According to Adamu, Zubairu, Ibrahim & Ibrahim, 2011 this method provides a basis for classifying the firms into undiversified, moderately diversified and highly diversified organisations. If a firm's turnover from its dominant business is between 70% and 95% of its total turnover, then according to the classification, such a firm is moderately diversified. A firm is highly diversified if the turnover from its dominant business is less than 70% of its total turnover.

According to Schoar 2002, diversification can be measured using the Herfindahl-Hirschman Index (HHI) which is a sales-based measure of diversification. It is computed as 1 minus the sum of the squares of each industrial segment's sales over total sales, so that indices that are closer to 1 indicate higher industrial diversification. In some countries diversification can be

assessed using the Standard Industrial Codes (SIC). It is a more straightforward measure that counts the number of segments per year at the two-digit SIC level (Rocca et al., 2009).

1.1.2 Capital Structure

The mix of debt and equity instruments which are used to finance a firm's assets form the capital structure. The mix comprises of common stock, debt and preferred stock and it different from firm to firm. Managers of a firm have a big challenge of choosing the optimal capital structure which is the mix of securities that minimizes the cost of financing the firm's activities and thereby maximises the value of the firm (Ajay & Madhumathi, 2012). Enow (2010) describes optimal capital as the capital structure with a minimum weighted cost of capital and thereby maximises the value of the firm's stock, one in which the share price is maximized.

A firm's capital structure can have significant implications for a firm's operations; it can both create opportunities and also impose limitations for the firm (Chen & Low, 2004). False capital structure decisions may lead to financial distress and eventually to bankruptcy hence management of a firm sets its capital structure in a way that firm's value is maximized (Poddar & Mittal, 2014). While debt financing benefits firms because it can lower the firm's overall cost of capital and helps shield some income from taxes, it also poses risk because failure to make periodic interest and loan payments can lead to financial distress and bankruptcy (Kochhar, 1996).

A capital structure is considered to be good when it has a consequence a fall in the cost of capitals. The main advantages of debt are that it contains less risk for the investors than equity also its interests have a tax advantage. Conversely it also has disadvantages for instance it increases the variance of earnings which provokes the investors to ask for greater returns. Also it increases the cost of financial distress which may be considerable if a firm uses debt often (Markopoulou & Papadopoulos, 2008).

Enow (2010) argued that in contrast to debt financing, equity financing does not require direct obligation from the firm to repay funds. Instead, equity investors become part of the owners in the business, and thus are able to exercise some degree of control of the firm. However administering some sales of stock like an initial public offering (IPO) can be very expensive and complex. There are often high of regulations surrounding stock issues, also it might require help of costly attorneys and accountants

Franco Modigliani and Merton Miller (M&M) first propounded a theory in which they explained that, a firm's capital structure does not influence its value, only its underlying assets do. In 1963, after adjusting their initial assumptions to include corporate taxes, they yielded another theory which explained that in a world with corporate taxes, and where interest is tax deductible, an issue of debt adds value to the firm.

Rajan & Zingales, 1995 argued that the choice of the most relevant measure of leverage depends on the objective of the analysis. However, in their study they concluded that the effects of past financing decisions would be best represented by the ratio of total debt over capital (defined as total debt plus equity). In other studies: Rocca et al., 2009 analyzed leverage as a ratio of total financial debt to total financial debt plus equity. Rajendran & Madabhushi, 2009 measure leverage as a ratio of total debt to total equity. A ratio of 1 indicates an even mix of debt and equity, a ratio less than 1 signifies low leverage while above 1 indicates high leverage. The researcher intends to adopt the latter measure for this study.

1.1.3 Relationship between Corporate Diversification and Capital Structure

The effects of product diversification and international diversification can be explained through the co-insurance effect. Co-Insurance effect is a corporate debt theory advanced by Lewellen (1971) that suggests that firms can reduce risk by diversifying their activities. The reduced risk helps to boost a firm's debt capacity thereby signifying a positive relationship between leverage and the degree of diversification (Apostu, 2010). Lewellen (1971) argued that aggregating business segments that have imperfectly correlated cash flow streams reduces the variability of earnings for the combined firm. By increasing a magnitude of insurance pool through geographical or product diversification, expected losses become more predictable and earnings volatility can be reduced. Higgins & Schall (1975) extended this argument and showed theoretically that the co-insurance effect leads to an increase in the market value of the diversified firm's debt and an associated decline in the value of its equity.

Banerjee & Dey (2011) argue that debt capacity adds value to the firm hence diversification increases firm value by increasing overall debt capacity. According to Singh et al., 2002, to maximize shareholder's wealth, diversified firms may have greater debt capacity than non-diversified firms. According to Monteforte & Stagliano (2011) when firms engage

simultaneously in product and geographic diversification strategies, agency costs of debt and asymmetric information problems may increase, thereby reducing debt capacity. Nunkoo & Boateng (2010) quote Rajan & Zingales (1995) pointing out that larger firms tend to be more diversified and failed less often, that is, they are less likely to go bankrupt. Lower risk of bankruptcy and the ability of large firms to issue debt at lower cost enable them to take more debts than smaller firms. Operating in multiple markets helps firms to diversify risk and smooth earnings volatility, thereby allowing them to reap he potential benefits of carrying more debt (O'Brien, Parthiban, Toru & Andrew, 2013).

A considerable body of literature however shows that corporate leverage is negatively related to international diversification. Multinational corporations (MNCs) tend to carry less debt in their capital structure than local firms. Also other studies have found out that product diversification is possibly unrelated to debt usage, and it may be either related in a non-linear manner or negatively related to debt usage (Singh et al., 2002; Michel & Shaked, 1986)

1.1.4 The Nairobi Securities Exchange

The Nairobi Securities Exchange (NSE) was constituted as Nairobi Stock Exchange in 1954 registered under societies act as a voluntary association of stockbrokers. A number of developments have transpired since inception, which include the automation of the trading in government bonds through the Automated Trading System (ATS) in 2009. The name was changed to Nairobi Securities Exchange in the year 2011 to reflect the strategic plan to evolve into a full service securities exchange which supported trading, clearing, settlement of equities, debt, derivatives and other related instruments. Currently there are 61 companies listed on the NSE under its 11 segments, whereby the biggest segment is Banking which has 12 firms. The other segments include: Agricultural (7), Commercial and Services (9), Telecommunication and Technology (1), Automobiles and Accessories (4), Insurance (6), Investment (3), manufacturing and Allied (9), Construction and Allied (5), Energy and Petroleum (5) as well as the Growth Enterprise Market Segment (GEMS) which has 1 firm listed after its launch in January, 2013. The NSE is the principal securities exchange of Kenya and it is licensed and regulated by the Capital Markets authority (CMA), a government regulator charged with licensing and regulating capital markets in Kenya. (www.nse.co.ke)

1.2 Research Problem

In recent years in response to stiff competition, resulting from changes in business environment as well as introduction of competitive policies, many firms have been forced to rationalize their operations and generally review their corporate strategy. Diversification is one of such strategies that allow the company to enter business lines that are different from current operations as well as operate in several economic markets (Achuti 2012). The effectiveness of diversification as a strategic tool has been questioned and mixed by academicians. It is unclear if diversification adds value to an organization as compared to a firm that adopts a more focussed strategy (Rushin, 2006).

While the choice of capital structure, one of the most important financial decisions of firms, has been the subject of considerable debate and investigation. The debate on what drives capital structure decisions is still open (Sbeiti, 2010). Firms that choose to fund with equity today will leave less expensive sources of funding for future needs and other hand if they choose debt funding now, they will tend to have only expensive funding available in the future (Barton, Hill & Sundaram, 1989). For firms listed on the Nairobi Securities Exchange, corporate diversification strategy and product uniqueness partly influence the choice of capital structure (Muchiri, 2009).

Some studies have been done on capital structure and diversification of firms listed in Kenya. A study by Ngugi (2008) indicates that the main determinants of capital financing behaviour for firms listed on the NSE consisted of information asymmetries, non-debt tax shields and local capital market infrastructure. Orua (2009) looking at the relationship between capital structure and financial performance of micro-finance institutions (MFIs) in Kenya found out that highly leveraged MFIs performed better by reaching out to many more clients. Thauti (2013) after researching on the relationship between capital structure and shareholder value for companies listed on the NSE, determined that there exist a negative relationship between leverage and market to book ratio.

Scanty research has been done to study the effects of corporate diversification on capital structure or the connection between diversification and capital structure in Kenya and the existing literature is inconclusive. This study targeted 45 firms listed on the NSE as at 31st December 2013, after excluding 17 financial firms due their different balance sheet structure.

The study therefore sought to answer the following question; what is the relationship between corporate diversification and capital structure of firms listed on the NSE?

1.3 Objective of the Study

The objective of the study was to establish the relationship between corporate diversification and capital structure of firms listed on the Nairobi Securities Exchange.

1.4 The Value of the Study

The study would be important to the following groups:

Managers: Management of listed firms would benefit from independent analysis of the relationship between corporate diversification and capital structure. These would help managers in formulation and implementation of relevant corporate diversification strategies that uphold the desired capital structure.

Researchers: The study will contribute to the literature on corporate diversification and capital structure. It would provide valuable factual information and data that can form basis for study by Scholars who may be interested in furthering research on capital structure and corporate diversification which would result to supporting existing theories or initiating new arguments.

Government: Relevant government authorities, who formulate policies to guide companies and protect consumers, would benefit from important information the study would provide for this purpose.

Other Stakeholders; Other individuals or entities besides government, interested to know the value and effects of corporate diversification for their own use would find the research very useful.

CHAPTER TWO: LITERATURE REVIEW

2.0 Introduction

In this chapter, the researcher discussed the work of other scholars and researchers relating to diversification and capital structure. Theoretical and empirical reviews on diversification and capital structure were done to guide the proposed study.

2.1 Theories on Diversification

There are various theories that try to explain diversification. Among them are the Coinsurance Effect, Resource Based View and Transaction Cost Economics approach.

2.1.1 The Coinsurance Effect

The coinsurance effect deals with the reduction of operating risk due to the imperfect correlation between the different cash flows of a firm running diverse business. It is more relevant for firms that develop unrelated diversification strategies because the lack of correlation between businesses is greater: these firms should assume more debt (Lewellen, 1971).

2.1.2 Resource Based View

The resource-based view (RBV) emphasizes the firm's resources as the fundamental determinants of competitive advantage and performance. The model assumes firms within a strategic group may be heterogeneous with respect to the bundle of resources that they control. It also assumes that resource heterogeneity may persist over time because the resources used to implement firm's strategies are not perfectly mobile across firms. Thus the essence of strategy should be defined by the firm's unique resources and capabilities (Barney, 1991).

2.1.3 Transaction Cost Economics

The transaction cost economics (TCE) approach focuses primarily on the question of vertical integration or the make or buy decision and it plays an important role in determining the distribution of the firm's activities over industries. It also focuses on the firm's choice to diversify into a new industry rather than contract out any assets that are valuable in that industry. TCE does not predict much about the specific industries into which a firm will

diversify. However it can be combined with other approaches, such as resource based, which describe which assets are useful where (Klein & Lien, 2009)

2.2 Theories on Capital Structure

There are three main theories of capital structure; capital structure irrelevance theory, the trade-off theory and pecking order theory.

2.2.1 Capital Structure Irrelevance Theory

The modern theory of capital structure was established by Modigliani and Miller (1958). Their paper pointed out the direction that such theories would take showing under what conditions capital structure is irrelevant (Harris & Raviv, 1991). This acted as the departure point of for all virtually all discussions on capital structure. According to M&M the way in which a firm finances its assets, through the mix of debt and equity, can have no impact on the value of the firm. However their theory only holds under the assumption of perfect capital markets (Dreyer, 2010). One of the conditions under which, the value of the firm is independent of its capital structure, was absence of taxes. However, in the real world taxes do exist and especially interest payments on debt are tax deductible (Ratshikuni, 2009).

2.2.2 Trade Off Theory

The trade-off theory resulted from formalization of ideas by Kraus & Litzenberger (1973) as an extension of the work done by Modigliani & Miller (1963), as well as the work of traditional theorists. This theory assumes that firms trade off benefits and costs of debt and equity financing and find an optimal capital structure after accounting for market imperfections such as taxes, bankruptcy costs and agency costs. A decision maker of a firm thus needs to evaluate the various costs and benefits of alternative leverage plans (Luigi & Sorin, 2009). According to this theory a firm must decide on a target debt ratio which maximizes it value and then slowly move toward the target ratio. The optimal capital structure is reached when the marginal benefit of each incremental unit of debt (i.e. interest tax shields) is equal to marginal cost of each incremental unit of debt i.e. financial distress (Naidu, 2011)

2.2.3 Pecking Order Theory

The pecking order view suggests that firms allow specific hierarchy in financing; firms prefer internal to external financing (Jong, Kabir & Nguyen, 2007). If internal funds are not enough to finance investment opportunities, firms may or may not acquire external financing, and if they do, they will choose among different external finance sources in such a way as to minimize additional costs of asymmetric information. The pecking order theory regards the market-to-book ratio as a measure of investment opportunities (Luigi & Sorin, 2009). A firm issues the safest security first if external finance is required. That is, it issues debt, then possibly hybrid securities such as convertible bonds. And equity only as a last resort (Jong et al., 2007)

2.3 Determinants of Capital Structure

The key determinants of capital structure identified from prior studies include: Diversification, Tangibility, non-debt tax shield, size of the firm and financial performance.

2.3.1. Diversification

Combining businesses with imperfectly correlated cash flow streams provides coinsurance effect that creates more debt capacity. This results in increased debt usage for product diversified firms and a similar impact is expected for geographically diversified firms, when geographic diversification occurs across political boundaries with imperfectly correlated cash flow streams (Singh et al., 2002)

2.3.2. Tangibility

Tangibility is the collateral value of assets. The type of assets owned by a firm affects its capital structure choice (Chang, Lee & Lee, 2008). Companies with greater tangible assets have relatively lower bankruptcy costs, and consequently higher debt capacity. They can be used as collateral and thus decrease bankruptcy risk and give companies opportunity to borrow more (Mokhova & Zinecker, 2013).

2.3.3. Non-Debt Tax Shield

The existence of non-debt tax shields affects a firm's capacity of debt tax benefit and consequently affects a firm's optimal debt level. Since interest payments are tax deductible,

raising more debt increases tax benefits (Sbeiti, 2010). The tax deductibility of interest payments makes debt comparatively cheaper than equity (Naidu, 2011)

2.3.4. Size

The larger companies have less constrains to the capital markets, have more favourable interest rates, lower agency costs, lower loan security and less risk of financial distress (Mokhova & Zinecker, 2013). Larger firms can diversify their investment projects on a broader basis thus their financial distress risk can be considered to be lower. The trade off theory suggests a positive relation between size and leverage (Sbeiti, 2010).

2.3.5. Performance

Myers, 1976 argues that a firm's order of preference of raising capital is retained earnings, debt, and new equity. Issuing new equity is the last choice because of its high cost. The financial performance of a firm, through its realized profits and the available amounts of earnings to be retained, is an important determinant of capital structure. Highly profitable firms might be able to finance their growth by using retained earnings while maintaining a constant debt ratio. In contrast, less profitable firms are forced to resort to debt financing (Chang et al., 2008).

2.4 Empirical Literature Review

Chkir & Cosset (2001) examined the relationship between the debt level of MNCs and their diversification strategy by integrating both the international market and product dimension of diversification in their analysis and by utilizing a switching regression model. The switching regime model identified four types of diversification regime. The sample consisted of some US based MNCs drawn from all companies listed on the Standard & Poor's Compustat Industrial Tapes whose data was available for the period 1987-1991. The results suggested that the group that composed of the least diversified MNCs was less leveraged than the three other groups of MNC's. Also MNC's that had high level of international diversification faced higher agency costs of debt.

Singh et al., (2002) conducted a study on corporate diversification strategies and capital structure. Their objective was to investigate the relation between the two dimensions of corporate scope, geographic and product diversification and their impact on corporate leverage. The sample consisted of all New York Stock Exchange (NYSE), American Express

(AMEX) and Nasdaq listed U.S. firms that have annual sales volume higher than US$100 Million excluding firms offering financial services and regulated utilities. They collected and analysed secondary data for the period 1994-1996, using parametric test statistics and multivariate regression analysis. Their findings were that; after controlling for geographic diversification, asset turnover, firm size as well as other variables, product diversification is at best unrelated to debt usage and it may be either negatively related to debt usage or related in a non-linear manner in some instances. However it may help alleviate the negative influence of international diversification on leverage as they established that Multinational Corporations (MNCs) that are product-diversified had lower leverage ratios than domestic firms.

Chang et al., 2008 researched on the determinants of capital structure choice. The sample size consisted of 13887 firm-year observations which covered 351 industries. They pooled between the years 1988-2003 and analysed it by use of descriptive statistics. After measuring capital structure by ratios of long-term debt, short-term debt and convertible debt to market value of equity, growth resulted to be the most influential determinant on capital structure when its measured as either market to book assets (MBA) ratio or market to equity (MBE) ratio out of the seven factors of study: growth, profitability, collateral value, volatility, non-debt tax shields, uniqueness and industry. Growth had a negative effect on leverage when measured with MBA ratio, while positive if measured with MBE ratio. In general, under a simultaneous cause-effect framework, they concluded that the seven factors under study had significant effects on capital structure choice.

A research conducted by Nunkoo & Boateng (2010) revealed that, in the context of Canadian firms, profitability and tangibility had a positive and major impact on the firm leverage, while growth opportunities and size had a negative influence on the leverage. The results also showed that the firm size has an impact on the leverage ratios of Canadian firms. The coefficient of size variable was significant and negative.

Monteforte & Stagliano (2011) study indicated that product and geographic diversification individually are positively related to capital structure, but the interactive variable between product and geographic diversification had a negative and significant coefficient. The study sought to investigate the interactive effect of product and geographic diversification on capital structure for a panel of medium and large Italian firms. They pointed out that combining business with cash flows that are not perfectly correlated can potentially reduce

the volatility of earnings and the costs of financial distress, thus reducing the cost of capital and increasing total stakeholders' value, with an overall impact on debt levels.

Guo (2011) highlights on two common possible reasons for diversification: one reason is that some firms seek to reduce underinvestment problem. Firms with lower capital expenditure ratio are likely to increase their diversification level. Diversification helps firms to have a larger internal capital market such that they are more capable of avoiding external financing which is often more costly; this in turn reduces the underinvestment problem. A diversified firm owns a real option in allocating capital across segments and is able to avoid external financing thereby. Secondly, firms diversify to seek growth opportunities to support their future growth thus creating more value for shareholders.

Nyanamba, Nyangweso & Omari, (2013) did a research on the factors that determine the capital structure of micro-enterprises. Their research targeted 200 active micro-enterprises within Kisii town. Using simple random design they identified the 80 (40%) micro enterprises for study. Their case study of micro-enterprises in Kisii town concluded that, some determinants of capital structure seemed to be more significant as compared to others. The greatest determinants identified were: access to capital markets, size of the business, and profitability of the business and lender's attitude towards the firm.

2.5 Summary of Literature Review

Most of the foregoing studies were mainly done in the developed countries whose institutions diversification effects on capital structure are different from those of listed firms in Kenya and the findings don't arrive at one conclusion. Decisions on choosing the best capital structure mix as suggested from the theories are further complicated by diversification which requires funds. Furthermore there was no published research in Kenya concerning the relationship between corporate diversification and capital structure thereby there existed a research gap, this study therefore sought to fill this literature gap by investigating the relationship between diversification and capital structure of firms listed on the Nairobi Securities Exchange.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

In this chapter the researcher presents the research design and methodology used to carry out the research. Specifically it includes the following subsections; research design, population and sample, data collection as well as data analysis.

3.2 Research Design

This section focuses on the research techniques adopted and used for this study with the aim of achieving the research objectives. Research design refers to the way the study is designed, that is the method used to carry out the research (Mugenda & Mugenda, 2003). This study adopted a descriptive study design. A descriptive study is one in which information is collected without changing the environment. It should answer five basic questions: who, what, why, when and where (Grimes & Schulz, 2002). The design was deemed appropriate because of the observational nature of data that was collected from the annual reports of listed firms.

3.3 Population

The researcher drew his population from all companies listed on the Nairobi Securities Exchange as at 31st December. The researcher targeted 45 no-financial firms, as shown in appendix I, after excluding 17 companies, which were operating in the financial sector, whose balance sheets have a different structure from those of the non financial firms.

3.4 Data Collection

The study was based on secondary data. The annual financial data for listed firms for the period 2009-2013 were obtained from the Nairobi Securities Exchange, Capital Markets Authority and respective companies' websites as well as their official publications. Other relevant published information from sources other than the respective companies was also used; magazines and newspapers. The financial data collected for each firm was on: Debt (long-term debt and short-term), total equity, total revenues, revenues from each segment, total assets, net fixed assets, depreciation and net income as specified later in the model for the study.

3.5 Data Analysis

The regression analysis technique was employed to explore the relationship between diversification and leverage decisions by firms after controlling for some control variables selected from prior studies that influences the leverage decisions of the firm. They included tangibility (TANG), non-debt tax shield (NDTS), size (SIZE) and performance (PERF). Diversification is treated as the independent variable in this study. Managers can control the extent of desired diversification and capital structure is the dependent variable. Data was categorized, ordered and summarized to obtain answers to the research question. Descriptive statistics, mean and standard deviation were used to present the research findings. Spear man correlation was used to measure the relationship between each two variables (Dependent and Independent). Regression analysis was used to link the relationship between capital structure and the independent variables. This was done by entering data into a computer through an excel spreadsheet to enable manipulation of the data before entering it into SPSS after which analysis was done using the statistical package (SPSS).

3.5.1 Model Specification and Operationalization of Variables.

In this study the researcher used a fixed effects regression model as shown below and analyzed whether there's a significant relationship between the variables in the model at 95% confidence level and 5% level of significance:

LEVEit = β_1DIVEit + β_2TANG + β_3NDTS + β_4SIZE + β_5PERF + αi + uit

Where:

$\beta_1, \beta_2, \beta_3, \beta_4, \beta_5$ as its coefficients which were to be estimated

αi stands for unknown intercept

uit stands for error term

3.5.1.1 Dependent Variable

Leverage (LEVE); is the dependent variable varying across section and time. It was measured as a ratio of the total debt to total equity. This ratio is a measure of the relationship between the capital contributed by creditors and the capital contributed by owners calculated as; total debt divided by total equity. A ratio of 1 would indicate that the company funds its

projects with an even mix of debt and equity. A ratio of less than 1 would indicate low amount of debt and a ratio more than 1 would signify high leverage.(Rajendran & Madabhushi, 2009).

3.5.1.2 Independent Variable

Diversification (**DIVE**); is the independent variable and was measured using the Specialisation Ratio (SR) method; calculated as a ratio of the firm's annual revenue from its largest (core) segment to its total revenue. The higher the ratio computed the lesser the firm diversification and vice versa. The researcher expected a positive relationship between diversification and leverage.

3.5.1.3 Control Variables

The control variables which were standardized by the researcher in order to clearly determine the relationship between diversification and capital structure include:

Tangibility (TANG); In this study, tangibility was measured as ratio of net fixed assets to total assets (Chakraborty, 2010). The researcher expected a positive relationship as firms with a greater percentage of total assets composed of tangible assets are more likely to have a higher capacity to raise debt. Tangible assets, which retain high liquidation value, serve as debt security. However, if tangible assets are illiquid, firms have a lower debt capacity (Nyang'oro, 2013).

Non-debt tax shield (**NDTS**); Non-debt tax shield was measured by depreciation over total assets. Firms with high non-debt tax shields may end up using more debt in their capital structure compared to those with no non-debt tax shield (Nyang'oro, 2013)

Size (SIZE); In this study, logarithm of total assets was used as the proxy for size of the firm. Firm size defines the extent to which firms can access credit markets to get loans (Vries, 2010).

Performance (PERF); An accounting based measure of return on assets (ROA) was used to measure performance and is defined as the ratio of net income to total assets (Rocca et al., 2009). The Pecking order theory predicted that leverage would be negatively related to profitability because firms prefer to obtain financing through internally generated funds rather than debt.

CHAPTER FOUR:

DATA ANALYSIS, RESULTS AND DISCUSSION

4.0 Introduction

This chapter details the research findings presented by descriptive statistics and tables. The regression model and correlation statistics are also presented in this chapter. The study population targeted 45 listed firms, out of which 36 firms (80%) as shown in appendix II, whose complete data was available were studied. The data was analyzed to answer the research question which was to establish the relationship between corporate diversification and capital structure of firms listed at the Nairobi Securities Exchange.

4.1 Descriptive Statistics

The table below illustrates the descriptive statistics on all the variables; leverage, diversification, tangibility, non debt tax shield, size and performance.

Table 1: Descriptive Statistics on Leverage, Diversification, Tangibility, Non Debt Tax Shield, Size and Performance

		LEVE	DIVE	TANG	NDTS	SIZE	PERF
N	Valid	180	180	180	180	180	180
	Missing	0	0	0	0	0	0
Mean		1.1200	.7823	.4983	.0299	15.8248	.073806
Median		.7800	.8300	.5600	.0300	15.7550	.056550
Mode		.39	1.00	.28	.03	15.53	.0263
Std. Deviation		1.66626	.19381	.23476	.02703	1.56419	.0891551
Variance		2.776	.038	.055	.001	2.447	.008
Minimum		-14.52	.15	.01	.00	11.35	-.2988
Maximum		8.03	1.00	.87	.15	19.06	.4728

Source: Author, 2014

4.1.1 Leverage

In the five years under review by the study, the maximum debt to equity ratio was 8.03 while the minimum was -14.52 for Home Afrika in 2013 and Uchumi Supermarket in 2009 respectively. Uchumi Supermarket had a negative leverage in 2009 due to huge accumulated losses of about Kshs. 1.08 Billion that weighed down the firm. The standard deviation of leverage was 1.66626 indicating a very small variation in leverage from the mean of 1.1200. The mean leverage ratio of 1.1200 indicates that most listed firms are highly leveraged as illustrated in Table 1 above.

4.1.2 Diversification

This was measured as a ratio of the firm's annual revenue from its largest (core) segment to its total revenue. The most diversified company was Centum Investment which had the minimum ratio of 0.15 in the year 2009 while the least diversified was Kenya Power and Lighting Company firm with a maximum ratio of 1 in all the 5 years considered in the study. The standard deviation of diversification was 0.19381 indicating a very small variation in diversification from the mean of 0.7823 as illustrated in Table 1 above.

4.1.3 Tangibility

The firm with the minimum percentage of total assets composed of tangible assets was Home Afrika in 2009 with a ratio of 0.01 while Centum Investment had the greatest percentage with a ratio of 0.87 in 2011. The standard deviation of tangibility was 0.23476 indicating a very small variation in tangibility from the mean of 0.4893 as illustrated in Table 1 above.

4.1.4 Non debt Tax Shield

Non-debt tax shield was measured by depreciation over total assets .The lowest ratio of depreciation to total assets was 0.0003 whereas the highest was 0.15. The standard deviation of Non debt Tax Shield was 0.02703 indicating a very small variation in non debt tax shield from the mean of 0.0299 as illustrated in Table 1 above.

4.1.5 Size

Natural logarithm of total assets was used as the proxy for firm size. Out of the 35 listed firms analyzed, the smallest firm was Limuru Tea with the minimum natural logarithm of 11.35 while the biggest firm was Kenya Electricity Generating Company with the maximum

natural logarithm of 19.06. The standard deviation of size was 1.56419 indicating a very high variation in size from the mean of 15.8248 as illustrated in Table 1 above.

4.1.6 Performance

A firm's performance was measured using an accounting based measure Return on assets (ROA) and was defined as the ratio of net income to total assets. The minimum value was -0.2988 for Express Kenya in 2011while the maximum was 0.4728 for Limuru Tea in 2010. The standard deviation of performance was 0.892551 indicating a very small variation in size from the mean of 0.073806 as illustrated in Table 1 above.

4.2 Linear Regression Model

In the study a linear regression model was used to predict the relationship between capital structure and the hypothesized factors determining it for firms listed in Kenya. In a regression model, the coefficient of correlation (R) indicates the extent of the relationship between two variables where R=+1 indicates perfect positive correlation, while R=-1 indicates perfect negative correlation between the variables. In the model adopted for the study the coefficient of correlation (R) is 0.382 which indicates that leverage has a weak positive relationship with the variables under study.

The co-efficient of determination (R2) is 0.146 and the adjusted (R2) value of 0.121, meaning that 14.6% of leverage for listed firms is explained by the model's independent variable and control variables while 85.4% of leverage is explained by the error term and other independent variables which are outside the model. The standard error of estimate is 1.56191 which indicates the deviation from the regression line established by the model. This is summarized in the following Table 2.

Table 2: Regression Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics		
					R Square Change	F Change	df1
1	.382[a]	.146	.121	1.56191	.146	5.943	5

Model	Change Statistics	
	df2	Sig. F Change
1	174[a]	.000

a. Predictors: (Constant), PERF, NDTS, DIVE, SIZE, TANG   **Source: Author, 2014**

The F statistic value is 5.943 this is greater than the F value, at α 0.05 at n=5 and 174 degrees of freedom, which is F value of 2.2661. Therefore I can conclude that the relationship between leverage and the independent variables in this model is significant. This is illustrated by ANOVA results in Table 3 below.

Table 3: ANOVA Results

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	72.497	5	14.499	5.943	.000[b]
1	Residual	424.486	174	2.440		
	Total	496.982	179			

a. Dependent Variable: LEVE   **Source: Author, 2014**

b. Predictors: (Constant), PERF, NDTS, DIVE, SIZE, TANG

Table 4: Regression Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B	95.0% Confidence Interval for B
		B	Std. Error	Beta			Upper Bound	Upper Bound
1	(Constant)	-1.668	1.386		-1.204	.230	-4.403	1.067
	DIVE	.748	.635	.087	1.178	.240	-.505	2.001
	TANG	-.589	.564	-.083	-1.045	.297	-1.701	.523
	NDTS	.358	4.723	.006	.076	.940	-8.965	9.681
	SIZE	.185	.079	.173	2.330	.021	.028	.341
	PERF	-5.944	1.341	-.318	-4.431	.000	-8.592	-3.296

a. Dependent Variable: LEVE   **Source: Author, 2014**

From the regression coefficients in Table 4 above, the constant for the leverage model is -1.668 given that all other factors are held constant and the error term is 1.386. The variables of tangibility and performance have negative coefficients of -0.083 and -0.318 respectively. This means that tangibility and performance are inversely correlated to leverage for the Nairobi Securities Exchange listed firms, as a result any increase in any of the variables leads to a reduction in the leverage and vice versa.

The other research variables of Diversification, Non Debt Tax Shield and Size are positively correlated to leverage for Nairobi Securities Exchange listed firms. This means an increase in any of these variables causes an increase in leverage and vice versa.

4.3 Correlation Analysis

The correlation matrix below reflects correlations in pair between the dependent variable and independent variables. From the correlation matrix, 2 out of the 5 variables were significant to leverage ($Sig<0.05$), these are Size and Performance. Diversification, Non Debt Tax Shield and Size were found to be positively correlated to leverage, at the values 0.035, 0.021 and

0.177 respectively as indicated in table 5 below. Performance had a strong negative relationship at -3.32 whereas tangibility had -0.77 as shown in table 5 below.

Table 5: Correlations Matrix

		LEVE	DIVE	TANG	NDTS	SIZE	PERF
LEVE	Pearson Correlation	1	.035	-.077	.021	.177[*]	-.332[**]
	Sig. (2-tailed)		.640	.304	.784	.018	.000
	N	180	180	180	180	180	180
DIVE	Pearson Correlation	.035	1	-.260[**]	-.075	-.166[*]	.139
	Sig. (2-tailed)	.640		.000	.317	.026	.063
	N	180	180	180	180	180	180
TANG	Pearson Correlation	-.077	-.260[**]	1	.360[**]	.264[**]	.061
	Sig. (2-tailed)	.304	.000		.000	.000	.416
	N	180	180	180	180	180	180
NDTS	Pearson Correlation	.021	-.075	.360[**]	1	.232[**]	-.034
	Sig. (2-tailed)	.784	.317	.000		.002	.650
	N	180	180	180	180	180	180
SIZE	Pearson Correlation	.177[*]	-.166[*]	.264[**]	.232[**]	1	-.121
	Sig. (2-tailed)	.018	.026	.000	.002		.107
	N	180	180	180	180	180	180
PERF	Pearson Correlation	-.332[**]	.139	.061	-.034	-.121	1
	Sig. (2-tailed)	.000	.063	.416	.650	.107	
	N	180	180	180	180	180	180

*. Correlation is significant at the 0.05 level (2-tailed).   **Source: Author, 2014**

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

4.4 Discussion of Results

The study used linear regression and bivariate correlation analysis to analyze the findings. While linear regression attempts to model the relationship between two variables by fitting a linear equation to observed data, bivariate correlation measures the relationship and its strength between two variables. The findings were discussed and interpreted in relation to theoretical and empirical frameworks.

For Diversification by firms listed at the Nairobi Securities Exchange in Kenya, the regression results indicated that during the period 2009-2013, it had a weak positive correlation with leverage (sig = 0.240 and correlation coefficient = 0.087). The correlation results as well showed that a weak positive relationship exists between diversification and

leverage (correlation coefficient = 0.035). However the correlation statistically insignificant (sig = 0.64). This is inconsistent with coinsurance effect theory which argues that highly diversified firms will assume more debt.

Tangibility is negatively correlated with leverage for listed firms in Kenya as shown by regression results (correlation coefficient = -0.083 and sig = 0.297). The correlation results also indicate a negative correlation between tangibility and leverage (Correlation coefficient = -0.077). However the correlation was not statistically significant (sig = 0.304).

Non Debt Tax Shield is positively correlated with leverage as per the regression results (correlation coefficient = 0.006 and sig = 0.940). The correlation results also indicate a negative correlation between Non Debt Tax Shield and leverage (Correlation coefficient = 0.21). However the correlation was not statistically significant (sig = 0.784).

Size is significant in determining capital structure of firms listed in Kenya as indicated by regression results (correlation coefficient = 0.173 and sig = 0.021). The correlation results also indicate a negative correlation between Non Debt Tax Shield and leverage (Correlation coefficient = 0.177 and sig = 0.018). The results matched with the findings of Nunkoo & Boateng (2010), that size has a negative influence on leverage.

Performance is an important factor in determining capital structure for listed firms in Kenya. This is supported by both the regression analysis (Coefficient= -0.318 and sig = 0.000) and correlation analysis (coefficient = 0.332 and sig = 0.000). The results are consistent with the pecking order theory of capital structure, which suggests that firms allow specific hierarchy of financing; firms prefer internal to external financing. The results also concur with findings by Nyanamba, Nyangweso & Omari (2013) and Chang et al., 2008 that Performance is a key determinant of capital structure since it has major significant effects on capital structure choice.

It also agrees with the researchers expectations that the highly profitable firms would have less the debt in their capital structure. It can be concluded that firms that have good performance would be less leveraged and vice versa.

From the findings and discussions above on all the variables, the study model would translate to;

LEVE*it = - 1.668 + 0.175 SIZE - 0.318 PERF + 1.386*

Where:

LEVE= Leverage (Dependent variable)

SIZE= Size

PERF= Performance

CHAPTER FIVE:
SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.0 Introduction

The chapter gives a brief summary of findings of the study; conclusions and recommendations of the research; it also highlights the limitations of the study and suggestions for further research

5.1 Summary of findings

The study sought to establish the relationship between corporate diversification and capital structure of firms listed in the Nairobi Securities Exchange. The study employed deductive approach where a study begins with developing theory and hypothesis. After that the author chooses data and tests the hypothesis. Data was collected on 36 listed firms, covering the period 2009 to 2013, from annual reports of respective companies. The annual reports were obtained from the firms' websites, Capital Markets Authority and other relevant publications. Linear regression and bivariate correlation were used to analyze the data.

Diversification was measured using Specialization Ratio, calculated as a ratio of annual revenue from the core segment of a firm to its total annual revenue. It was found out that lowest ratio was 0.15 indicating high level of diversification, as the core business of the firm contributed to only 15% of its total revenue. The highest ratio was 1 indicating low level of diversification signifying that such a firm would be adopting a single business diversification strategy.

The linear regression model's correlation coefficient (R) was 0.382 and coefficient of determination (R^2) was 0.146 implying only 14.6% of the variation in leverage can be explained by variables in the study, while 85.4% of leverage variance is explained by the error term and other factors outside the model. The model is statistically significant as indicated by the F Value of 5.943 and significance value of 0.0000.

The regression results indicate existence of a weak positive relationship between capital structure and the following variables; Diversification and Non Debt Tax Shield and Size. This finding agreed with some prior related studies; Guo (2011) and Monteforte & Stagliano (2011). A negative relationship was found between capital structure and Tangibility and Performance.

5.2 Conclusions and Recommendations

The research findings showed that most firms listed at the Nairobi Securities Exchange were highly leveraged. After the analysis and based on the results, I can conclude that the research objectives was met; Diversification has positive relationship with capital structure however it's less significant in determining capital structure for firms listed since the strength of the relationship was found to be very small.

The following recommendation arising from the study can be made. First, the Capital Markets Authority needs to enforce CMA Act guidelines which require firms to file annual reports with the Regulator yearly. Failure of enforcement on the part of CMA and non compliance by listed firm's was evidenced by missing annual reports, for a number of years and for different firms, as observed when the Researcher visited the Regulator's library. Secondly, The Capital Markets Authority should design a web portal to store key financial data centrally for all listed companies and it should be accessible online by external users. This would make retrieval of data to easy and quick. This is because cases of key data required for a study missing have an undesirable effect of limiting the study.

5.3 Limitations of the study

This study was based on secondary data mainly collected from audited financial statements and websites of listed companies. Therefore the integrity of the findings was as good as the integrity of the financial statements and information posted on websites of the firms. This implies that if there were any misrepresentation of facts or material errors in the financial statements or websites, then the findings of this study could also be limited by those errors and misrepresentations.

This study examines the association between corporate diversification and capital structure per se. It does not address the variation in capital structure caused by different forms of diversification; related and unrelated.

5.4 Suggestions for further research

The researcher suggests that a similar study be conducted which should take into account the different types of diversification strategies (international diversification and product diversification) and employing a different more effective measure of diversification. This is because of the notion that the expansion across borders (imperfectly correlated economies) lowers earning volatility and reduces the risk of bankruptcy.

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https://www.nse.co.ke/

APPENDIX I

LIST OF NON- FINANCIAL FIRMS LISTED ON THE NSE AS AT 31ST DECEMBER 2013

NO	COMPANY	SECTOR
1	REA Vipingo Plantations Ltd	Agricultural
2	SASINI Ltd	Agricultural
3	Car & General Kenya Ltd	Automotives
4	CMC Holdings Ltd	Automotives
5	Marshalls East Africa Ltd	Automotives
6	Sameer Africa Ltd	Automotives
7	East African Breweries Ltd	Brewery
8	BOC Kenya Ltd	Chemicals
9	Eaagads Ltd	Coffee
10	Hutchings Biemer Ltd	Commercial Services
11	Longhorn Kenya Ltd	Commercial Services
12	Athi River Mining Ltd	Construction
13	Bamburi Cement Co Ltd	Construction
14	Crown Paints Kenya Ltd	Construction
15	East African Cables Ltd	Construction
16	East African Portland Cement Co Ltd	Construction
17	Kenya Electricity Generating Co Ltd	Energy
18	Kenya Power & Lighting Ltd	Energy
19	Umeme Ltd	Energy
20	Uchumi Supermarket Ltd	Food & Beverage
21	Unga Group Ltd	Food & Beverage
22	TPS Eastern Africa Ltd	Hotels & Leisure
23	Centum Investment Co Ltd	Investment
24	Olympia Capital Holdings Ltd	Investment
25	TransCentury Ltd	Investment
26	A Baumann & Co Ltd	Manufacturing
27	Carbacid Investments Ltd	Manufacturing
28	Eveready East Africa Ltd	Manufacturing
29	Kenya Orchards Ltd	Manufacturing
30	Nation Media Group Ltd	Media & Broadcasting
31	Scan Group Ltd	Media & Broadcasting
32	Standard Group Ltd	Media & Broadcasting
33	KenolKobil Ltd Group	Oil & Gas
34	Total Kenya Ltd	Oil & Gas
35	Home Afrika Ltd	Property Development
36	Mumias Sugar Co Ltd	Sugar
37	Kakuzi	Tea

38	Kapchorua Tea Co Ltd	Tea
39	Limuru Tea Co Ltd	Tea
40	Williamson Tea Kenya Ltd	Tea
41	AccessKenya Group Ltd	Telecommunications
42	Safaricom Ltd	Telecommunications
43	British American Tobacco Kenya Ltd	Tobacco
44	Express Kenya ltd	Transport
45	Kenya Airways Ltd	Transport

Source: www.nse.co.ke

APPENDIX II

LIST OF FIRMS ANALYZED IN THE STUDY

NO	COMPANY	SECTOR
1	REA Vipingo Plantations Ltd	Agricultural
2	SASINI Ltd	Agricultural
3	Car & General Kenya Ltd	Automotives
4	CMC Holdings Ltd	Automotives
5	Sameer Africa Ltd	Automotives
6	East African Breweries Ltd	Brewery
7	BOC Kenya Ltd	Chemicals
8	Athi River Mining Ltd	Construction
9	Bamburi Cement Co Ltd	Construction
10	Crown Paints Kenya Ltd	Construction
11	East African Cables Ltd	Construction
12	East African Portland Cement Co Ltd	Construction
13	Kenya Electricity Generating Co Ltd	Energy
14	Kenya Power & Lighting Ltd	Energy
15	Uchumi Supermarket Ltd	Food & Beverage
16	Unga Group Ltd	Food & Beverage
17	TPS Eastern Africa Ltd	Hotels & Leisure
18	Centum Investment Co Ltd	Investment
19	Olympia Capital Holdings Ltd	Investment
20	TransCentury Ltd	Investment
21	Carbacid Investments Ltd	Manufacturing
22	Eveready East Africa Ltd	Manufacturing
23	Nation Media Group Ltd	Media & Broadcasting
24	Scan Group Ltd	Media & Broadcasting
25	Standard Group Ltd	Media & Broadcasting
26	KenolKobil Ltd Group	Oil & Gas
27	Total Kenya Ltd	Oil & Gas
28	Home Afrika Ltd	Property Development
29	Mumias Sugar Co Ltd	Sugar
30	Kakuzi	Tea
31	Kapchorua Tea Co Ltd	Tea
32	Limuru Tea Co Ltd	Tea
33	Williamson Tea Kenya Ltd	Tea
34	Safaricom Ltd	Telecommunications
35	Express Kenya ltd	Transport
36	Kenya Airways Ltd	Transport

Source: www.nse.co.ke