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**EFFECTS OF FINANCIAL LEVERAGE ON STOCK RETURNS OF NON-FINANCIAL
COMPANIES LISTED IN THE NAIROBI SECURITIES EXCHANGE**

JULIET CHELAGAT TANGUT

**SUBMITTED IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE
DEGREE OF MASTER OF COMMERCE, STRATHMORE
UNIVERSITY.**

**SCHOOL OF MANAGEMENT AND COMMERCE
STRATHMORE UNIVERSITY
NAIROBI, KENYA**

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DECLARATION

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JULIET CHELAGAT TANGUT

.....

14th June 2017

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ACKNOWLEDGEMENTS

I must sincerely give thanks to God for the patience, sustenance and good health throughout my thesis .Also I extend my thanks to my supervisor, Prof. Robert Mudida whose guidance, suggestions and patience have been crucial to the development of this thesis. Finally, I wish to express my heartfelt gratitude to my Mother Jane Changwony and my good Friends Ruth Sitienei and John Irungu for their love, support, prayers and words of encouragement. I will always be indebted to you all.

ABSTRACT

The aim of this study was to find out the effects of financial leverage on stock returns of non-financial firms listed on the Nairobi Stock Exchange. Secondary and primary data was used for analysis. Financial statements and reports of the listed firms was the source of the secondary data and questionnaires were used to collect primary data for analysis. Panel data pertaining over the period 2002-2016 and STATA statistical software was used to perform the panel regression analysis. Actual stock returns and leverage figures in form of debt ratio, debt equity ratio and firm characteristics of size and growth are used in the calculations. The results indicate the variables debt ratio and debt equity ratio are significant determinants of stock returns for the firms under consideration but negatively affect returns. This implied that the more debt the firms used as a source of finance they experienced low returns on stock. The study also found the relationship between Size and stock returns to be positive and significant affected the investor's returns on stock. The results concludes, in contrast with a majority of fundamental theories, that there is a negative relationship between leverage and stock returns which indicate that investors are not being compensated for the extra risk they are taking on when investing with high-leveraged firms. Several previous empirical studies has come to the same conclusion. The findings also revealed that most investment managers considers a company's debt ratio and debt equity ratio before investing on their stock and size of a firm as a very significant factor in deciding on their investments. As the scope of study is limited to the non-financial firms and the sample size is small, the findings of the study must be interpreted with caution and the results may not be generalized for all listed firms. These findings should be of interest to investment managers and policy makers on decisions regarding stock investments on the NSE.

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LIST OF ABBREVIATION AND ACRONYMS

CAPM- Capital Asset pricing Model

CFO- Chief Financial Officer

CRSP-Centre for Research in Securities Prices

DER-Debt Equity Ratio

DR- Debt Ratio

EPS- Earnings per share

GFSR- Global Financial Stability Report

IMF- International Monetary Fund

NOI - Net operational income

NSE -Nairobi Securities Exchange

NYSE- New York Stock Exchange

NASDAQ- National Association of Securities Dealers Automated Quotations

ROA- Return on Assets

ROE- Return on Equity

SMEs- Small and Medium Enterprises

SR- Stock returns

U.S- United states

CHAPTER ONE: INTRODUCTION

1.1 Background to the study

Financing decision is an important function in a company's decision making that helps finance managers to decide when to obtain finances and how to meet their investment needs (Zhao & Wijewardana, 2012). Nyamita (2014), explains that the decision on financing in a firm is crucial. Debt financing has been noted to have a very high consequence for corporations as far as its operations therefore leading to a better performance of the company as well as their failure. Financial management entails two different types of leverage. Operating leverage is defined as effect of debt on account of all fixed costs other than interest and on the other hand financial leverage is effect on account of the financial cost and interest. Financial leverage used by companies is usually meant to earn more as far as charges on funds is concerned than on costs. Financial leverage entails variations of Shareholders' income in response to change in operating profits which result from financing a corporation's assets with preferences stocks or debt (Aliu, 2010).

Companies often fund their investments through equity and debt (Adenugba, Ige & Kesinro, 2016). The use of leverage to finance firm's investments is however supported by various theoretical foundations. The first one is by Majluf and Myers (1984), that explains most companies look for external financing options rather than equity financing according to the pecking order theorem. The order of financing is based on cost related to such finance types and their availability (Mule and Mukras, 2015). The Modigliani and Miller theory (MM) (1958) affirms in a perfect market, the value of a firm is never affected by equity or debt that a company uses. The trade-off theory also explains debt financing of a firms is established by a balance of advantages of borrowing and the costs of borrowing (Nyamita, 2014). The Jensen and Meckling (1976) agency theory also hold that high indebtedness instills discipline to managers, thus it is connected with better financial performance (Evgeny, 2015).). Also Market timing theory which suggests that debt could correlate negatively with stock returns (Brealy, Myers & Allen 2011)

According to Gill and Mathur (2011) when a company expects positive future cash flows when it offers debt. The use of debt is beneficial to a company since interest payments are not taxable and that may lead to increasing firm value (Evgeny, 2015). A company that uses debt as their source of finance gets important advantage such as savings on tax, reduction of costs related to agency and other costs like financial distress which comes the use of debt financing (Raza, 2014). Nawaiseh (2015) stated that the survival of the firm and its continuity often depends on its performance; most importantly its profitability which may be fueled by effective leveraging. Abubakar (2015) echoed the same sentiments by stating that a higher potential return to investors is realized when financial leverage is availed but if the investment becomes worthless potential loss is also higher, loan principal and accrued interests on loans required to be repaid.

In the finance world, decisions on whether to use debt or equity in a company is very crucial as shift in leverage could either cause financial difficulties in the firm. Lintner (1956) and Gordon (1959) explains there exist an optimal leverage ratio which equals debt benefits example tax shields to the costs of debt like an increase in expected bankruptcy costs. Firms employ financial leverage with the intention of earning higher returns on fixed charges funds than their costs (Enekwe, Agu & Eziedo, 2014). Financial leverage is more on the debt utilized in the firm's capital structure and therefore leverage arises as a fixed financial expense of the firm. It bears a fixed obligation of interest payment (Adenugba, Ige & Kesinro, 2016). Two different outcomes are possible with the use of financial leverage, either positive i.e. maximizing the profit or negative minimization. The firm is exposed to risk because of high debt levels which should be repaid at a cost (Al-Otaibi, 2013). Firms utilize financial leverage so that they can experience a return on investment. Excessive use debt or employment of leverage can be a risk to a company if not well managed.

According to Cheng and Tzeng (2010) companies that uses leverage demonstrates in great extent that it can handle the risks which comes about with carrying debt. This can be a very crucial point to consider when deciding when to get additional finance. Also, companies that have good financials, but very scarce credit history, sometimes may encounter challenges convincing lenders that they deserve good rate on borrowings. Furthermore it was suggested that the use of financial leverage is linked to possibility of bankruptcy of a firm and defaults according to, Baxter (1967).

Due to the commitment that is associated with the use of debts, such as the periodic interest payments, and the principle paid by the company, and because of these risks shareholders will demand a higher return, which puts the company in a critical situation.

Stock returns is referred to as rewards gained from an investment and can be either dividends or capital gains (share price increase). Returns may be calculated by either historical or expected future return. Historical is return on an investment over the holding period of the investment while expected return is the return an investor anticipates on an investment in the next period (Reilly and Brown, 2012). Previous studies done on financial leverage and stock returns have used different definitions. Arditti (1967) defined them as geometric mean of the share, Hall et al (1967) on the other hand regards stock returns as after tax profits on investments.

The firm size has the potential to influence stock returns in form of the preference of the choices of capital structure. As big companies have an upper hand in raising external funds easily from the capital markets, also there is less reliance on internally raised funds. The probability of bankruptcy is lower in larger firms because they pay dividends to its shareholders as small firms suffer from restrictions to access finance (Osman et al; 2013). Furthermore, the cash flow of these companies had no impact on investment and showed the theory of pecking order theory do not have any effect on medium firms' investment. Size, ownership structure and growth opportunities play important roles in the choice of performance measure.

In Kenya, the Nairobi Securities Exchange (NSE) comprise of 64 listed companies which has been classified to identify them with various sectors in the economy (NSE, 2015). The rapid growth of listed firms in the NSE is critical in attaining economic expansion in Kenya and the greater East African region. The East Africa region in which Kenya is the largest economy is an emerging market and as such is characterized to have a strong growth market (International Monetary Fund, 2014). Firms listed in the NSE would be keen to optimize these expansion opportunities to benefit from the growth opportunities in the long-term. This could be achieved through adopting capital structures and financial leverage levels that support asset growth by finance managers of the listed firms.

However, after independence the securities market activities slumped as a result of uncertainty on Kenya's future independence trend. The NSE has been denationalized since 1988 by the Kenyan government selling 20% of its holdings. The operation is through a Central Depository and Settlement Corporation (NSE, 2014). The companies listed in NSE are anticipated to be financially stable in order to build investors' confidence and contribute to economic growth. During listing period these firms should meet the set criteria set by NSE. However, despite meeting the set listing requirements, firms are exposed to market dynamics which affect them either negatively or positively. These dynamics may be caused by the government policies, risk perceptions, management decisions and investment decisions taken (NSE, 2014).

1.2 Problem statement

Financial leverage and share performance are very important aspects in corporate finance (Aivazian, Ge & Qiu, 2005). Therefore, Investment managers as representatives of shareholders must constantly attempt to set firm's capital structure so they can reduce costs therefore consequently stock returns and profitability can be maximized (Kraus & Litzengerger, 2013).

The connection between leverage and stock returns of firms in terms of finance has been examined by several authors and despite financial leverage being central, empirical findings on this have been mixed and sometimes contradictory such as Hamada (1972) Bhandari (1988) and Dhaliwal et al, (2006) who concluded that increase in leverage causes increase in returns. On the other hand, some researchers show that returns decrease with leverage. They include; (Korteweg, 2009; Dimitrov and Jain, 2008, Penman et al, 2007; Muradoglu and Sivaprasad, 2009). In addition to sparse literature available, the findings by the researchers were also mixed in Kenya. Buigut et.al, (2013) found out that financial leverage affects return positively of manufacturing companies while Njeri (2014) and Ogilo and Bernard (2015) found that the relationship between leverage and stock returns of companies listed in NSE to be negative.

Also, researchers have not been focusing on market based measurements of firm performance such as stock returns. Instead many studies have chosen to focus on book values such as return on equity and assets returns to be their dependent variable. For instance, (Ismail, 2016) study which reported negative relationship between leverage. Similar effects is also reported by Maghanga and Kalio

(2012) and Gweyi and Karanja (2014) concentrating on Kenya power and lighting company and Savings and Credit Co-operative Societies in Kenya respectively. This research dependent variable will be stock returns instead of book values to find relationship of firms share performance and leverage from an investor's perspective. The study will try to explore if investors should take capital structure (leverage) into account in their investment decisions. Measuring actual stock returns this study is important as the actual effect of leverage on stock returns is captured, not what impact leverage has on future returns.

Previous empirical studies on leverage and stock returns have presented somewhat conflicting results, others agreeing some disagreeing with important theories of capital structure. The contradictory results justifies further research.

1.3 Research objectives

1.3.1 General objective

The aim of this study is to find out effects of financial leverage on stock returns of the non-financial companies listed in the NSE over the period 2002-2016.

1.3.2 Specific objectives.

1. To determine the effect of debt ratio on stock returns of non-financial companies in the NSE.
2. To determine the effect of debt equity ratio on stock returns of non-financial companies in the NSE.
3. To assess the moderating effects of firm characteristics on stock returns of non-financial firms in the NSE.
4. To obtain investment managers perception of effects of leverage on stock returns.

1.4 Research questions

1. What is the effect of debt ratio on stock returns of non-financial companies in the NSE?
2. What is the effect of debt equity ratio on stock returns of non-financial companies in the NSE?

3. How does moderating factors of firm characteristics affect stock returns of non-financial firms in the NSE?
4. What are investment manager's perception of leverage on stock returns?

1.5 Scope of the study

The study is based on effects of financial leverage on stock returns of non-financial companies study listed in the NSE. The study will cover a duration of 15 years from 2002-2016 with 840 observations from 28 listed companies. The firms in the financial sector were excluded to avoid complications because they are highly regulated on cash holdings (Santos, 2001). Responses from investment managers were also sought in the study.

1.6 Significance of the study

In academics, the research will add to the body of knowledge on the significance use of debt to the firm and how this contributes to stock returns of the firm. Future academicians interested in this area of study or other related topics will use the findings of this research as a reference point. In addition, this study can be used for further research.

This study will also be useful to policy makers of firms listed at NSE as it will provide insight to non-financial companies listed showing the effects of cost of financing with debt particularly how it contributes to shares returns. The findings will be used to guide non-financial companies on financial decisions on policy formulation and the use of borrowed funds to increase their returns in their firm which is a key financial goal of most financial companies.

To the managers, if a positive effect of financial leverage and stock returns exist, then they might be encouraged to dedicate more time and effort in sourcing and managing such finances. They may also be interested to investigate the underlying causes of the relationship so as to form the basis of resource allocation too.

To the investors, potential and existing, it will assist them make informed decisions on the choice of their investments in an attempt to maximize their returns on their investment portfolios. It will also act as a good way of evaluating the performance of the respective managers and make decisions on their retention.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section look at effects of leverage on stock returns and discusses the related theoretical literature. Then, the paper explores the empirical studies done in regards to financial leverage and its effect on stock returns around the world. The literature review has revealed that many studies have been focused on developed economies however there has been a recent interest in emerging economies as well as developing countries. The chapter also includes a conceptual framework to further show the linkage between the variables. A summary of the literature will highlight the literature gaps and form basis of this study.

2.2 Theoretical Debates on financial leverage

This section provides the theoretical literature which are related to financial leverage and stock returns. This theoretical literature begins with the theories which include: Trade-off theory, the Pecking order theory, Agency theory and Market timing theory.

2.2.1 Pecking order theory

Pecking-order theory, mainly was contributed by Myers and Majluf (1984) considers internal finance as the cheapest source of finance, then debt and finally external equity. They consider retained earnings as having no floatation costs and therefore requires no additional disclosure of financial information (Kishore, 2009). Based on asymmetric information, the theory highlights issuing securities to raise external capital signals out a lower profitability to investors than what they had expected. Being rational in their decisions, investors adjust the discount rate for the firm upward since they now require a higher return on their investment.

The theory hypothesis is based on the assumption of high degree of information asymmetry among managers and investors. Meaning managers have more information about the company than the shareholders. A proof is stock prices often rise after announcement of increased coming dividend payments. With the pecking order assumptions in mind, issuance of equity is a last resort. Issuing equity would according to this theory send bad signals and investors may in such a scenario fear that the firm is in financial distress. That in turn would cause the stock price to dip (Brealey, Myers & Allen 2011).

The theory assumes managers will be obliged to act in the best interest of the investors since they know more about the company future growth opportunities (Sheikh & Wang, 2011). Also, it is assumed information asymmetry exists between them. (Upneja & Dalbor, 2001). This case may not be realistic in practice as it also ignores the problems that may occur when a firm's managers get more comfortable with the companies financials and become indisciplined (Kishore, 2009).

According to (Viviani, 2008), firms leverage shows previous profitability as well as the investment opportunities of the company, this shows that if a firm has no other available options, may prefer to use equity other than debt contrary to the pecking order. Fama and French (2005) supported this explanation of preference of equity over debt in capital structure. This theory is relevant to this study since non-financial firms operate in a financial environment that fits the Pecking order. If the firms must use outside financing, preference capital is to be used in the subsequent command of funding sources such as convertible securities, debt and preferred stock. An appropriate debt to equity ratio and debt ratio needs to be maintained.

2.2.2 Trade-off theory

According to trade-off theory, firms usually choose how much debt finance or equity finance to use by looking at advantages and disadvantages of both debt and equity Myers (1984). Myers (1984) explains trade-off theory is mainly cancelling costs of debt against benefits of debt while Kraus and Litzenger (1973) suggest that this is reflection of the trade-off between tax benefits of debt and the expected costs of bankruptcy in a firm.

Companies will use debt but will be cautious of any risks that could come as a result of bankruptcy. This is the point at which the tax saving from any additional debt exactly equal to the cost that will arise from an increase in the financial distress probability (Sheikh & Wang, 2011). So long as a company uses debt effectively, shareholders benefit from more debt than equity (Baker & Martin 2011).

According to Luigi and Sorin (2009), trade-off theory was postulated after the debate over the MM irrelevance theorem when corporate tax was added on the theory this created a benefit for debt in

that it was a tax shield implying a 100% debt financing. Companies with high returns with tangible assets will use more debt than firms with low returns and consequently risky assets. In practice however, firms do not operate with a 100% debt financing due to distress, bankruptcy and agency costs hence the need to match the costs and benefits. In addition, the target capital structure is not determined directly and that taxes are more complex hence conflicting conclusions on the targets a company could reach depending on the taxes (Graham & Harvey, 2001).

Moreover, while the theory predicts a positive effect of the tax rate and leverage due to allowable financial expenses against income tax, it does not explain further the effect of tax rate on leverage (Karadeniz, Kandir, Balcilar & al, 2009). Hennessy and Whited (2005) in their study on debt dynamics show inconsistent findings with the theory in disapproving the existence of target leverage ratio. They argue that firms can be highly levered or not, and varies negatively with an external finance weighted average.

This theory is relevant to this study given that listed firms that carefully select equity levels and debts used for their financing were better placed to make higher profits compared to those that were not keen with the levels of equity and debts. Those firms with higher debts were highly disadvantaged. Most firms strive to achieve an optimal proportion of equity to debt capital structure and this is argued to create tax advantages.

2.2.3 Agency Theory

Agency theory was first developed by Jensen & Meckling (1976). It relates to decisions made within a firm by managers and the shareholders. The theory states that, with low monitoring level to the organization and low discipline in decision making, managers might decide to venture in investments that are not profitable to the firm (Jensen & Meckling 1976).

Their reasoning is built up on the principal agent's theory, meaning agents are utility maximizing and generally act for their own interests instead of the principals. Principals can in this case take control by incentivising agents, however this generates costs, so called agency costs. This relationship fit that of a manager and shareholders of a firm. Jensen & Meckling (1976) suggests that a certain level of debt increase would decrease agency costs since debt holders would get more

power and control and thereby out-competing the agent's potential egotistical actions. Thereby higher levels of debt, up to a certain level, may improve a firm's performance (Jensen & Meckling 1976).

Indebtedness allows shareholders and managers to adhere to same objective of maximizing financial performance and hence shareholders wealth (Luigi & Sorin, 2009). For managers, the indebtedness has the power to incite them to perform since a company with high debt levels, the higher the risks of bankruptcy and risk of losing their jobs and remunerations. This is seen to be a sufficient threat in coercing them to down their inefficient management styles and in return yield maximum cash-flow to reward the debt (Grigore & Stefan-Duicu, 2013). As for the shareholders, debt has a leverage effect over the financial return due to interest tax shield coupled with the advantage of non-dilution of the share capital (Zhang & Li, 2008).

In practice however, managers still misappropriate funds even with debt obligation negating the argument advanced by the theory. Empirically, using 323 United Kingdom public Companies, while the general effect of leverage and agency costs was found to be significantly negative, findings showed the relationship no longer holds in very high levels of leverage (Zhang & Li, 2008). Agency theory too remains insufficiently studied with empirical verification difficulties mainly due to difficulty of measuring the agency costs (Grigore & Stefan-Duicu, 2013).

2.2.4 Market timing theory.

This theory assumes managers sometimes are irrational in their behaviour. In cases where a manager's outlook regarding their own company is more stable than the general investor's, they may decide to (and likely will) issue equity in terms of new stock when the stock price is high and raise debt in times when it's low. Managers in other words, due to asymmetric information, able to time the market at least somewhat efficiently. The market timing theory as such suggests that debt could correlate negatively with stock returns (Brealey, Myers & Allen 2011).

According to Masulis & Korwar's (1986) and Asquith and Mullin's (1986) studies, firms generally issue more equity when the stock price goes up. Graham & Harvey's (2001) survey additionally

shows majority of asked CFOs say they have timed the market when issuing equity. Similar evidence comes from Hovakimian, Hovakimian & Tehranian (2004) whom find the probability of issuing equity higher when the spot stock price is high.

This theory is relevant to this study in that managers of listed firms are bound by shareholders to act responsibly by making correct decisions on the level of debt ratio and profitability. They are answerable to the shareholders or board of directors and thus need to ensure that higher level of debt increases shareholders' value.

2.3 Empirical Review

The empirical review covers works related to financial leverage, firm characteristics and stock returns. Literature is structured starting with the positive and then the negative relations between the variables. Past studies done on the effects of financial leverage and stock returns have yielded mixed and contradictory results. A number of scholars found a positive relationship and that leverage affects stock returns while others found no significant and negative relationship.

2.3.1 Positive relationship between leverage and stock returns

Hamada (1969) uses theoretical approach to find out if Modigliani & Miller's proposition II holds by investigating the effect of capital structure on systemic risk of common stocks. He concluded debt ratio causes the increase in rate of return. Later in a study done in 1972 using data of U.S firms, he showed previous findings holds and establishes a positive correlation between stock returns and leverage (Baker & Martin 2011).

Masulis's findings are also in line with Hamada's findings. Masulis did a study on impacts of leverage on changes on stocks in 1983 and the results suggested that firm value and changes in stock correlated positively with debt ratio. (Masulis 1983). Also, Bhandari (1988) study showed that expected common stock on a monthly basis correlate positively with annual debt-to-equity ratios. This was observed regarding all firms of the sectors as well as manufacturing firms in the US stock market.

In Europe, the research by Artikis and Nifora (2011) did an analysis on impact of leverage on stock returns performing on all companies and also on industry selection. They did an analysis on non-

financial companies for a period of 15 years and found that leverage presents a strong positive and statistically significant relationship with stock returns. Also, industry level analysis leverage factor showed positive relationship with excess returns.

Moreover, to discuss the positive effect In Kenya, Buigut et al. (2013) focused on a study of capital structure and how it affects the share prices in the NSE. They looked at effects of debt, equity and gearing ratio on share price by using MM theorem to base their study on. The final results indicated that debt, equity and gearing ratio are significant of share prices for the manufacturing sector. Also, gearing ratio and debt were found to positively affecting share prices.

2.3.2 Negative relationship between leverage and stock returns

Ardatti (1967) examines effects of leverage and the geometrical average of returns for industrial and utilities firms. Ardatti found negative relations on the variables even though statistically insignificant. He also concludes that the insignificance between the variable may be a result of omitting risk variables that relates positively to return and negatively to leverage.

Cai and Zhang (2011) did a study in the United States stock market and observed that the change in leverage ratio affect negatively on the stock price. The study suggested that the change in leverage gives market participants signals concerning the value of the stock. Stock returns calculated on a monthly basis data obtained from CRSP was used in the sample that spanned from 1975 to 2002. All financial firms were excluded from the study.

Consequently, Dimitrov and Jain (2005) reported negative effect on leverage and stock returns. The conclusions were that a change in leverage is statistically significantly to a firm. Also changes in leverage ratios depicted a negative relation to future adjusted returns of which the results were robust for controlling for risk measures given by book-market, size and beta. The Fama (1973) four factor was used to analyse the variables in the study of the U.S market.

Penman, Richardson & Tuna's (2007) corroborated conclusions with those of Adami et al.'s; that financial leverage correlates negatively with stock returns. They all came in to a conclusion that the findings are negative due to measurement errors, omitting risk factors and the market misprices leverage (Penman, Richardson & Tuna 2007).

Similarly, Caskey et al., (2012) investigated the excess of leverage beyond the optimal level and is believed to convey information about performance of firms and its effects future stock returns. The negative relation found on leverage and future returns could be a combined effect of excess leverage and market inefficiency. The research has controlled the growth of assets one year ahead the current period based on the belief that companies may increase the leverage to acquire more assets.

Subsequent research by George and Huang (2010) records a similar result and based their argument that higher leverage level leads to higher chance of financial distress resulting in an increase of the distress costs. The data consisted of monthly prices, returns of all NYSE, AMEX and NASDAQ companies covered from 1965 to 2003. Fama-MacBeth (1973) style regression approach was used to analyse the data.

Although many studies over the years have been done in developed markets, other scholars in emerging markets have also done research on leverage and stock returns. Hussain and Gull (2011) did a study on capital structure and stock price. Debt to Equity Ratio, Debt to asset ratio, interest Coverage Ratio as an independent variable and stock price of company as dependent variable. The cement sector consisting of eleven companies were selected for the period 2005 to 2009 was used in the study. Descriptive statistics and regression analysis was employed and found a negative relationship between capital structure and stock price.

However, Abdala Barakat (2014) used a sample of 46 selected Saudi industrial companies listed during the period of 2009 – 2012 to find out effects of financial leverage and profitability of industrial firms. He found a statistically significant relation between return on equity and capital structure and stock market price, and no statistical significant relationship between financial leverage and company's value.

Also, Hasanzadeh et al. (2013) did a study on the effects of Leverage on Future stocks in the Tehran stock exchange. The analysis was done from 2005 to 2008 and took book value ratio as a variable to analyze data and test hypothesis. Findings showed that leverage does not affect future

stock value of the firm. And that lack of the relationship between the variables approves the Modigliani and Miller Theorem.

Moreover, Dana (2008) aimed to find out the factors which influence returns on stock in Amman stock market. The research was carried out on 60 companies listed and found that a significant relationship existed between inflation rate, Interest rate, and size whereas no relationship on Payment of Balance sheet gross domestic product and stock return.

Nirmala (2011) study also explains that more debt in firm decreases, its share price and less debt in turn increases their returns. This in turn shows that shareholders prefers companies with lower debt so they can get more returns. (Booth, et al. 2001).

In relation to size and stock returns, Shah and Hijazi (2004) also tried to check the determinants of capital structure from 1997 to 2001 in Pakistan, and found that size was positively related with leverage. Further, results showed growth was negatively related with leverage. Also, Sheikh & Wang (2011) emphasized the differences of developed and developing countries in relation to determining forces of leverage. This study found that tangibility, liquidity and profitability were related to low leverage using the panel data techniques. However, firms with larger size were expected to have high leverage.

In studies done in Africa, Prince, Evans and Albert (2013) investigated effect of leverage and size Ghana on stock returns. The study covered five years from 2006-2010 of selected five corporations operating in the manufacturing sector. They established negative significant relationship between leverage and stock return and Size and stock returns to be positive and significant.

Also, Njeri (2014) studied effects of financial leverage on corporate investment of non-financial firms listed for a period of five years (2009-2014) and had mixed findings. The 17 financial: banks and insurance firms were not considered due to the regulatory in the sector. The research used quantitative techniques in analysing the data using SPSS and found leverage has a significant negative result on corporate investment.

Ogilo and Benard (2015) also looked at the analysis of the relationship between stock returns used to determine the effect of change in total assets, change in revenue and change in financial leverage on stock returns. The study concluded that there is a weak positive correlation between stock returns and total assets.

2.4 Overview and gaps in the literature

From the above literature, studies have been carried out in relation to financial leverage and size on stock returns both in the local and global setting. A number of researches have been done with different scholars getting mixed findings and sometime contradictory. Many of them document negative relation between the level of leverage and stock price such as (Penman, Richardson and Tuna, 2007; Muradoglu and Sivaprasad, 2009; Dimitrov and Jain, 2008; George and Huang, 2010). Although some of the literature produces opposite results with a (Hamada, 1972; Bhandari, 1988; Dhaliwal, 2006), getting positive relationships between stock returns and leverage.

Many empirical literature in Kenya focuses on measures of firm's performance other than stock returns. These measures usually are return on assets (RoA), return on equity (RoE), and earnings per share (EPS). For instance, (Ismail, 2016) the study reported negative relationship between leverage and RoA. Similar results were also reported by Maghanga and Kalio (2012) and Gweyi and Karanja (2014) concentrating on Kenya power and lighting company and Savings and Credit Co-operative Societies in Kenya respectively. It is worth mentioning that these studies employed small samples and estimated only pooled regression disregarding any differences amongst firms and years.

Although some literature exists on financial leverage and stock returns in Kenya, it has not been exhausted. All the studies have different and conflicting results, Buigut et.al,(2013) found out that financial leverage affects return positively while Njeri (2014) and ogilo and Bernard(2015) found the opposite.

2.5 Research Hypotheses

The study was guided by the following hypotheses

H01: Debt to ratio has no significant influence on stock returns

Ha1: Debt to ratio has significant influence on stock returns

H02: Debt to ratio has no significant influence on stock returns

Ha2: Debt to equity ratio has significant influence on stock returns

H03: Firm characteristics have no significant influence on stock returns

Ha3: Firm characteristics have significant influence on stock returns.

2.6 Conceptual framework

This section covers the conceptual framework, operationalization of variables and model estimators. The independent variables in the study will be: the financial leverage, debt ratio, debt equity ratio, size and growth. The dependent variable in the study will be stock returns.

Conceptual Framework

Independent Variables

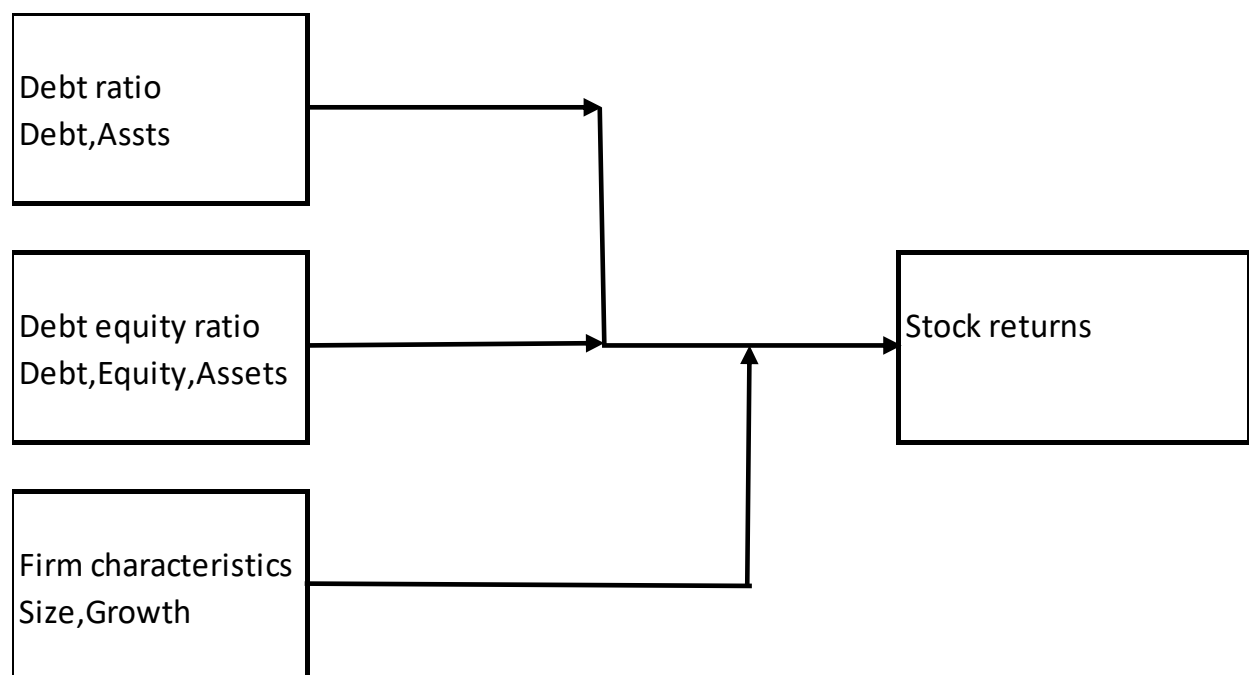


Figure 2.1: conceptual framework

2.7 Operationalization of Variables

This section describes how the researcher measured the independent variables and the dependent variable.

Stock Returns to investors is through capital gains which is the change in stock price from one time to another over time period. The study calculated Simple stock returns R_t includes is calculated as follows:

$$R_{it} = \frac{P_{it} - P_{it-1}}{P_{it-1}}$$

Where P_{it} is the price of the stock i on day t and P_{it-1} is the price of stock i on day $t-1$

Total stock returns is based on figures from the NSE and can be measured by either historical or expected future returns. The historical is the return on an investment over the time period the investment is held (the holding period) while expected return is the return an investor anticipates on an investment in the next period (Reilly and Brown, 2012). Previous studies done on financial leverage and stock returns have used different definitions. Arditti (1967) defined it as the geometric mean of share returns. Hall et al (1967) on the other hand regards stock returns as after tax profits on investments. On the other hand, Hamada (1972) calculates returns as after tax profits which shareholders receive on their investments after a certain period of time. Lastly, stock returns are defined as inflation adjusted by Bhandari (1988).

The independent variables are debt ratio and debt equity ratio. Also firm size in terms of its assets and firm growth as control variables. Control variables in this study were found and chosen in accordance with earlier studies on the subject and are suggested to affect both a firm's leverage ratio and stock returns. The moderating variables used are logarithm of assets of the companies and growth. According to pecking order hypothesis, firms with high growth should be more prone to finance their activities with equity other than debt and therefore leveraged to a lesser extent (Brealey, Myers & Allen 2011). Growth is defined as sales growth semi-annually, (Cassar & Holmes 2003)

$$\text{Growth} = \frac{\text{Net sales } t - \text{Net sales } t-1}{\text{Net sales } t}$$

Several studies suggest that capital structure to a certain extent correlates with firm size. According to Titman and Wessels (1988) the costs of debt are more for smaller firms, both in terms of bankruptcy and borrowing costs. Contrast to their theoretical reasoning. As in previous studies size is represented by the natural logarithm of sales since it reduces the amount of variation (Cassar & Holmes 2003).

Leverage is commonly explained as borrowed money in capital structure to allow for increased returns. Also, Leverage is regarded as a substitute of debt that is utilized by firms for financing its asset base such as the debt ratio. A potential loss or gain will in other words be larger for a firm that is highly leveraged than those that are not leveraged of low. In this study, book leverage figures will be used instead of market leverage figures, according to Barclay, Morellec & Smith Jr (2003) the book-leverage measure is better to use in financial regressions since using market-based figures for the independent variable might cause it correlate spuriously with exogenous variables.

Scholars such as Nivorozhkin (2004) was concerned with the use of book values in measuring leverage as opposed to market data and preferred to use market values because he deemed it fit in predicting future returns and risks. Market prices however fluctuate frequently which creates a problem of measurement persuading Nivorozhkin (2004) to conclude perhaps best measure of leverage is using book values. To this end, the study adopts the Bierman (1999) approach. Normally debt ratio is measured as total debt over total assets (Finance Formulas [WEB]). Debt Ratio (Normal) = Debt / Total Assets and debt equity ratio is measures as debt over equity.

Table 2.1: Variable definitions

| Variable | Category | Measure | Reference |
|-------------------|-----------------|--|-------------------------------------|
| Stock returns | dependent | Holding period yield | Wang (2014) |
| Debt ratio | independent | total debt over total assets | Leal Barros carvahas-da-silver,2007 |
| Debt equity ratio | independent | total debt over equity | Leal Barros carvahas-da-silver,2007 |
| Firm size | independent | The natural log of assets | Baatwa et al.,2015 |
| Growth | independent | Growth is defined as sales growth semi-annually, | (Cassar &Holmes 2003) |

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

Chapter three presents an outline of research methodology used in the study and covers the research design, target population of the study, data collection procedure and the sources of the data, and data analysis tools.

3.2 The Research Design

We are able to get the best data possible through the development of a good research design (Creswell, 2012). The study is exploratory in nature that will adopt a qualitative and quantitative research design. Exploratory design is preferred in situations where some key information is available about the phenomenon of the study (Cooper& Schindler, 2003). It uses quantitative data in most cases as is the case is in this study. This design have also been used by Mwangi et al. (2014) and Molavi and Jamalzade (2015) in analyzing the correlation between financial ratios and capital adequacy across banking network in Iran. This paper makes use of statistical analysis to obtain findings. The study is characterized by formal and systematic measurements and use of statistics (Marczyk & Festinger, 2005). Further, the design is dependable, valid and generalizable in this kind of a research.

3.3 Population and sampling

This study population comprised of 43 nonfinancial companies listed in the NSE. Purposive sampling will be adopted for the purposes of collecting data for this study. Purposive sampling is sampling technique which does not use probability of which the researchers deliberately selects a particular units of the whole population to qualify as the sample to be used (Kothari, 2004). For this study, the study sample will comprise listed firms and trading throughout the period of (2002-2016) .Any Company suspended, listed or delisted during this period shall be removed from the sample. And therefore the sample of study will be a total of 28 companies since 15 companies (Appendix 3).Financial companies are excluded from the research.

Table 3.1: Companies in the final sample

| Category of companies | Number of firms |
|---|------------------------|
| Total non-financial companies listed as of 31 December 2016 | 43 |
| Less: Number of delisted companies and suspended | 3 |
| Number of companies listed after 2002 | 12 |
| Total number of companies in the final sample | 28 |

Source: NSE (2016)

3.4 Data Collection Methods

Primary and secondary data will be used in this study. For secondary analysis, data will be acquired from financial statements and annual reports covering 2002 to 2016. The study covered 15 years (2002-2016) and data was collected semi-annually. The daily closing stock prices will be obtained from the daily price list at NSE. The daily stock prices will be converted to stock returns due to the non-stationary factor in stock prices.

Primary data was collected by the use of semi-structured questionnaires of fund/investment managers of the authorized trading market participants who are 23 in total (CMA, 2016). They were used to corroborate findings of data obtained from the annual reports. The results from the questionnaires are used for triangulation of data. This data will be useful as the researcher gets information from individuals who are involved in in the investment decision making.

3.5 Data analysis

This study used panel regression to determine effects of the financial leverage on stock returns of a firm as measured by its share price. Panel data involves observations on cross-section of units over time periods. It is preferred over cross-section and time-series data by researchers (Dougherty 2011). This is because, it enables for solving the problem with cross-section samples called unobserved heterogeneity (Brooks 2008).

The regression coefficients were tested for significance at 5% level of significance and conclusions drawn. A 5% level of significance has been used in many studies like Maina and Kondongo (2013), Chisti et al. (2013) and Abor (2007) in the past hence a good benchmark. It was compared with the p-value and significance of predictor variable(s) concluded if the latter is less than 5% (Castillo, 2009). This survey therefore well fits the technique and test.

3.6 Regression model for panel data

Panel regression analysis used in the analysis is shown below:

$$y_{it} = \beta_1 DR_{it} + \beta_2 DER_{it} + \beta_3 \text{controls} + \alpha_i + u_{it}$$

α_i is the unknown intercept for each entity.

Y it is the dependent variable (returns) where i = entity and t = time.

DR_{it} represents the first independent variable (debt ratio)

DER_{it} represents the second independent variable (debt equity ratio)

S_{it} represents the control variables size and growth.

β_1 is the coefficient for debt ratio spread,

β_2 is the coefficient for debt equity ratio

β_3 is the coefficient for the control variables.

u_{it} , is the error term

3.7 Diagnostic tests

Diagnostic tests will be important before analyzing data further.

3.7.1 Hausman test

To get the most suitable model for estimating the regression equation a Hausman test was performed (Brooks 2008). It basically help us determine whether to use fixed or random effects model. Hausman specification test at 5% level of significance was done to find the suitability of application of the models (Green, 2008). The null hypothesis for this Chi square test was random effect model is preferred to fixed effect model and was to be rejected if the p value is less than 5% to imply that fixed model is preferred (Green, 2008).

Key argument under fixed model is that if the unobserved variable does not change over time, then any change over response variable must be due to other factors (Stock & Watson, 2003). To the contrary, in random effects model, the variation across entities is assumed to be random and uncorrelated with the predictor variables in the model enabling time-invariant characteristics to be included in the model as predictors (Stock & Watson, 2003).

3.7.2 Unit root tests

Stationarity is a situation where the mean, variance and autocorrelation of data structure do not change over time (Gujarati, 2003). Unit root test will establish whether time series are stationary before making analysis with the data. This test was done to determine if the variables are stationary or not (Brooks, 2008). A series which does not have a unit root problem is regarded as a stationary series.

3.7.3 Multicollinearity

Variance inflation factors (VIFs) and correlation coefficients were used to test any multicollinearity. It distorts the regression coefficients, making them unstable, difficult to interpret and therefore invalid significance tests (Cooper & Schindler, 2006). The coefficients were compared with VIF of 5 and presence of multi-collinearity concluded for those variables with VIF of at least 5 as recommended by Gujarati (2003).

3.7.4 Normality test

The test was done to ascertain whether the variables and by extension the regression residuals were mesokurtic and non-skewed. Normal distribution should not be too steep and neither should it be positively or negatively skewed (Gujarati, 2003). This is especially so for small sample sizes. Non-normality of data however should not be a bother for big sample sizes due to the central limit theory (Green, 2008). Shapiro-Wilk test was used to find out whether the regression residuals followed a normal distribution.

3.8 Research Quality

Research quality includes the validity and reliability of the research. Validity of this research was established by asking questions and often corroborated answers in the research of others such as supervisors and colleagues. Reliability is the accuracy and precision of a measurement procedure (Cooper and Schindler, 2003). The data collected for the study was free from bias and inaccuracy.

3.9 Ethical Considerations

The researcher ensured that ethical standards were upheld and all information given herein will only be used for research purposes. The participation of the respondents will be voluntarily and to avoid

plagiarism all work borrowed from other scholars will be fully acknowledged. NO respondent shall be coerced into giving feedback and anything that will unclear shall be explained at the point of data collection. Also, the cover letter assured the participants of total confidentiality and the identities of the participants were kept private and confidential.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This section explains analysis of data and findings as set out in the research objective and research methodology. The first part will analyze the results from secondary data followed by the primary data analysis. Diagnostic tests, descriptive analysis and inferential analysis will be carried out for interpretations of the findings

4.2 Results from Inferential data analysis

4.3 Response Rate

Data was collected from 28 non-financial listed companies in NSE. Response rate was considered sufficient for making generalization on the whole population. The study covered 15 years (2002-2016) and data was collected semi-annually. The firms to be used in the analysis had to be present on the Nairobi Stock Exchange throughout the entire period. This was to avoid the problem of missing measurements in the variables selected. From the selection, only 28 non-financial firms were viable for analysis.

4.4 Descriptive Statistics

Descriptive statistics were used to show the summary of the variables and data profiling. Table 4.1 presents the descriptive summary for the variables, size, growth, Debt ratio and debt equity ratio and dependent variable, stock returns.

From the findings in Table 4.1 the average stock returns was 13.4% with a minimum value of -0.989, maximum value of 41.324 and a standard deviation of 1.490. This findings indicate on average, the companies in the NSE had moderate positive stock returns. Mean size given by the logarithm of assets is 6.287, a standard deviation of 0.933 and a minimum of 3.324 with a negative skewness of -0.886. The results showed many listed firms in the NSE had a strong asset base and that returns were high towards their investment in assets.

The average debt to total assets are 58.4%, debt to equity is 13.4% and this demonstrated a large percentage of listed non-financial firms always seeks debt finances. Also most listed firms were stable and thus able to access debt in the period of study. The maximum borrowings also reaffirms this position with debt ratio and debt equity ratio being 10.518 and 8.704 respectively. A positive skewness by all firms at NSE on debt levels shows most distribution falls on the right side of the tail. However, this does not agree with Mwangi et al. (2014) when they explained that most companies listed use debt to finance their activities. Finally, average growth in sales of the firms in the study period was 42.6%, minimum of -0.954 and maximum of 44.659 and standard deviation of 2.083 and a positive skewness of 13.69. This explains that the companies in analysis sales were consistent and high because majority were to the right tail.

Table 4.1 Descriptive Statistics

| Summary Statistics | | | | | | | |
|---------------------------|------------|-------------|------------------|------------|------------|-----------------|-----------------|
| Variable | Obs | Mean | Std. Dev. | Min | Max | Kurtosis | Skewness |
| Stock Returns | 840 | 0.134 | 1.490 | -0.989 | 41.324 | 696.329 | 25.273 |
| Size | 840 | 6.287 | 0.933 | 3.324 | 8.474 | 4.061 | -0.886 |
| Debt Ratio | 840 | 0.584 | 0.846 | 0.000 | 10.518 | 67.738 | 7.252 |
| Debt Equity Ratio | 840 | 0.1341 | 3.864 | -31.532 | 8.704 | 76.549 | 4.948 |
| Growth | 840 | 0.426 | 2.083 | -0.954 | 44.659 | 258.882 | 13.469 |

Source: research findings

4.5 Diagnostic tests

Different tests were used to fulfil the objectives of the study. It includes Hausman test, unit root test, normality test and multicollinearity test

4.5.1 Unit root test

Unit root test was done to test whether the variables were stationary or not. Null hypothesis is presence of unit root vs. the alternative stationarity. Non-Stationary will affect the behavior of a series and hence resulting to spurious regression. If the data is non-stationary it will go for differencing.

Table 4.2 Unit root test

| variable | | | Statistic | p-value |
|--------------------------|---------------------------|----|------------------|----------------|
| Stock returns | Inverse chi-squared (56) | P | 560.3453 | 0.0000 |
| | Inverse normal | Z | -20.1329 | 0.0000 |
| | Inverse logit t(144) | L* | -29.2875 | 0.0000 |
| | Modified inv. chi-squared | Pm | 47.6562 | 0.0000 |
| Debt ratio | Inverse chi-squared (56) | P | 515.4752 | 0.0000 |
| | Inverse normal | Z | -17.1142 | 0.0000 |
| | Inverse logit t(144) | L* | -26.4690 | 0.0000 |
| | Modified inv. chi-squared | Pm | 43.4163 | 0.0000 |
| Debt equity ratio | Inverse chi-squared (56) | P | 512.8991 | 0.0000 |
| | Inverse normal | Z | -16.1007 | 0.0000 |
| | Inverse logit t(144) | L* | -25.6599 | 0.0000 |
| | Modified inv. chi-squared | Pm | 43.1729 | 0.0000 |
| size | Inverse chi-squared (56) | P | 131.5446 | 0.0000 |
| | Inverse normal | Z | -1.9898 | 0.0233 |
| | Inverse logit t(144) | L* | -3.4742 | 0.0003 |
| | Modified inv. chi-squared | Pm | 7.1383 | 0.0000 |
| Growth | Inverse chi-squared (56) | P | 1551.9940 | 0.0000 |
| | Inverse normal | Z | -35.5951 | 0.0233 |
| | Inverse logit t(144) | L* | -80.8265 | 0.0003 |
| | Modified inv. chi-squared | Pm | 141.3581 | 0.0000 |

Source: Researcher

As shown in table 4.2, the null hypotheses as explained show that all variables contain unit root. The p values for all the variables was 0.0000 which is less than 0.05 and therefore it shows all the variables in the study were stationary.

4.5.2 Hausman Test

To choose a model to use in analysis between fixed or random effects, a Hausman test was done. To the contrary, in random effects model, the variation across entities is assumed to be random and uncorrelated with the predictor variables in the model enabling time-invariant characteristics

to be included in the model as predictors (Stock & Watson, 2003). The study will use a 5% level of significance to determine which model to use.

Prob>chi2 is more than 5% as shown in Table 4.3. $0.05 = 0.7721$, The Hausman test shows that the probability of chi-square is not significant, thus the null hypotheses was not rejected. Therefore we use random effects model for analysis. This is in line with Green (2008) recommendations.

Table 4.3 Hausman test

| |
|---|
| $\text{Chi2 (3) = (b-B) [(V_b - v_B)^{-1}] (b-B)$ $= 6.59$ $\text{Prob} > \text{chi2} = 0.1590$ |
|---|

Source: Researcher

4.5.3 Multicollinearity

As shown in table 4.2 all the VIFs were less than 5 showing no multicollinearity in the variables (Gujarati, 2003). The correlation coefficients were determined to ascertain the pairwise association between explanatory variables.

Table 4.4 correlation/multicollinearity

| | SR | SIZE | DR | DER | GR | VIF | 1/VIF |
|-------------|-----------|-------------|-----------|------------|-------------|------------|--------------|
| SR | 1.000 | | | | | | |
| SIZE | -0.111 | 1.000 | | | | 1.02 | 0.979 |
| DR | -0.018 | -0.073 | 1.000 | | | 1.02 | 0.982 |
| DER | -0.0002 | 0.103 | 0.079 | 1.000 | | 1.01 | 0.987 |
| GR | -0.017 | -0.057 | -0.011 | 0.006 | 1.000 | 1.00 | 0.996 |
| | | | | | MEAN | 1.01 | |

Source: Researcher

4.5.4 Normality test

The Shapiro Wilk results for all regression models were a $w=0.131$ for stock returns, size $w=0.944$, debt ratio $w=0.385$, debt equity ratio $w=0.342$ and growth $w=0.339$ with a p value of 0.000. The p-value is based on the assumption that the distribution is normal. P-value is (0.00000), indicating that we reject the null at 5% level of significance that Stock Returns, growth, Size, Debt Ratio and Debt Equity Ratio are normally distributed.

4.5.5 Test of reliability

Cronbach's alpha test was done to determine the internal reliability of the questionnaire collected from the respondents. The findings were, a Cronbach's alpha of 0.795 for 12 items which indicated an acceptable internal reliability which was good for this study.

4.6 Regression Results

In this study, panel data is used to explore the relationship between financial leverage and stock returns.

4.6.1 Effect of debt ratio on stock returns

The first objective of the study was to assess the effect of debt ratio aspect of financial leverage on stock returns of non-financial companies listed on Nairobi Securities Exchange. Debt ratio was given as total debt/total assets.

From findings in table 4.5, the model shows both debt ratio and debt equity are significant in explaining stock returns at p value of 0.01201. This is which is less than 0.05 at 5% level of significance hence we reject the null hypothesis that stock returns is significantly explained by debt ratio. Also, effects of debt ratio on stock returns show that the coefficient was -0.03242 hence DR had a negative impact on stock returns. This can be interpreted as debt ratio as an aspect of leverage does affect returns negatively. These results are in line with a majority of previous empirical studies on the subject .Adami et al. (2015) explore the relationship between capital structure and stocks listed on the London Stock Exchange. They found out that debt financing negatively affect stock returns. The results are explained by investors preferring to invest in financially flexible firms and therefore generate higher returns when investing in low-leveraged firms than high-leveraged firms.

Table 4.5 Regression results of DR and DER as an independent variable –Random effects model

| SR | Coef. | Std. Err. | z | P> Z | 95% Conf. Interval | |
|-----------|--------------|------------------|----------|-----------------|---------------------------|-----------|
| DR | -0.03242 | 0.060864 | -0.53 | 0.594 | -0.1517182 | 0.0868644 |
| DER | -0.17655 | 0.054858 | -3.22 | 0.001 | -0.2840758 | -.0690329 |
| cons | 0.152639 | 0.062521 | 2.44 | 0.015 | 0.0301002 | 0.2751779 |

Wald chi2(1) = 0.5942

Prob > chi2 = 0.01201

R sq = 0.0415

Source: Researcher

4.6.2 Effect of debt equity ratio on stock returns

The second objective of the study was to assess the effect of Debt equity ratio aspect of financial leverage on stock returns of non-financial companies listed on Nairobi Securities Exchange.

From Table 4.5, Debt equity ratio is significant as its p-value is 0.001 which is less than 0.05 at 5% level of significance hence we reject the null hypothesis that stock returns is significantly explained by debt equity ratio. Also, the coefficient is given by -0.17655 which is a negative and therefore implies that debt equity ratio affects stock returns negatively

4.6.3 Moderating effects of firm characteristics on the effects of financial leverage on stock returns of firms listed in the NSE

The third objective was to assess the moderating effects of firm characteristics on stock returns of non-financial firms in the NSE.

As shown in table 4.6, results on the effects of financial leverage on stock returns while size and growth is incorporated show that the size is significant in determining stock returns at p value of 0.001. The coefficient of size was however positive at 0.0054405 which shows that size affects stock returns positively. Also debt equity is significant as its p-value is 0.011 which is less than 0.05 at 5% level of significance hence we reject the null hypothesis that there is a significant relationship between debt equity ratio and stock returns.

The coefficient of growth was negative -0.0174618 and at p value of 0.479 showing a negative effect of growth on stock returns. The p values were more than 0.05 at 5% level of significance for both debt ratio and growth. The results are in line with studies by Prince, Evans and Albert (2013) who found the relationship between Size and stock returns to be positive and significant. Also Cardone Riportella et al, (2001) stressed out that there is a positive relationship between borrowing and size of the firm. Adami et al. suggested that the opposite results best are explained by investors preferring to invest with firms who are financially flexible and hence earn higher returns when doing so.

Table 4.6 Regression results of DR, DER, SIZE AND GR as an independent variable – Random effects model

| SR | Coef. | Std. Err. | z | P> Z | 95% Conf. Interval | |
|------|-----------|-----------|-------|-------|--------------------|-----------|
| SIZE | .0054405 | .0554913 | -3.32 | 0.001 | -.2931297 | -.0756079 |
| DR | -.0496241 | .0609662 | -0.81 | 0.416 | -.1691157 | .0698674 |
| DER | -.1843688 | .0133817 | -3.22 | 0.011 | -.0207872 | .0316681 |
| GR | -.0174618 | .0246399 | -0.71 | 0.479 | -.0657551 | .0308316 |
| cons | 1.299588 | .3548966 | 3.66 | 0.000 | .6040037 | 1.995173 |

Prob > chi2 = 0.0207

R sq = 0.0358

Source: Researcher

4.6.4 Investment manager’s perception of effects of leverage on stock returns

The last objective, the researcher sought to investigate the extent to which financial leverage affected stock returns. Respondents were asked to indicate the extent to which they agreed with the listed statements on debt ratio, debt equity ratio and firm characteristics on scale of 1 to 5. where 1= To a very low extent, 2- To a low extent, 3- To a moderate extent, 4- To a great extent and 5-To a very great extent. Results from the questionnaire show that most of the respondents were male, that is, 70.83% N=17 while 29.16% N=7 were female who practice investment trading

From the findings majority of the finance managers agreed that debt ratio affects their decisions whether to invest in stocks of a company. 60% of the respondents look at a company's debt levels first before deciding to invest on their stock or not, but 40% revealed that debt caused their returns to fluctuate overtime explaining that other factors contributed to that. This is explained by the debt ratio and the debt equity ratio of the firms in the study.

In addition, respondents agreed to a great extent that they consider size as a factor that affects returns in stocks by. 75% considers the size of a company measured by its asset base as a main factor that they look at when choosing stocks to invest in. The respondents also agreed by 50% that the company's asset base have contributed to the rise and fall of their returns. These findings are in line with the study by Osman & Mohammed (2010) who reported that the returns of bankruptcy is lower in larger firms; therefore, they are more likely to pay dividends, and that bankruptcy did affect the profitability of a business.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter summarizes and provides the results and discussions drawn from the analysis presented in chapter four. It captures the summary of findings, conclusions, limitations as well as recommendations for further research.

5.2 Discussions of findings

The purpose of the study was to examine effects of financial leverage on stock returns. The study was carried out using panel regression on eight hundred and forty observations and the findings of the study were discussed below.

5.2.1 Effects of debt ratio on stock returns

The study investigated the effects of debt ratio on stock returns of non-financial firms listed in the Nairobi stock exchange. Random effects model was used and revealed that debt ratio is significant in determining stock returns but have a negative coefficient. This can be interpreted as debt ratio as an aspect of leverage does affect stock returns negatively. Previous researchers such as Adami et al. (2015) and Penman, Richardson & Tuna (2007) have come to the same conclusion, suggesting that stock return correlates negatively with leverage. The unstable nature and negative relation between debt ratio and stock returns may be due to the debt maturity which is different between companies.

This finding is in agreement with Nirmala (2011) findings that increase in the debt levels in the capital structure of a firm decreases its share price and consequently and increase causes low share price. The results are inconsistent with the majority of accepted theories. The trade-off theory suggests that up to a certain level of debt, the optimal debt level a firm with a lower debt ratio should in accordance with this generate a lower return (Brealey, Myers & Allen 2011). Some manager's responses agree that a company's debt level does not necessarily affect the return in their stocks however some of them on a low extent consider leverage as one of the factors that affects returns.

The negative effect of debt on the firm performance tends to support the pecking order theory too. The results agree with Hasanzadeh et al. (2013) investigated effects of financial leverage on Stock returns of listed active cement industry companies in Tehran stock and therefore concluded that leverage does affect future stock value of the firm. The results indicate non-response of capital market against levered nature of the firm theory and Miller and Modigliani (M.M) theory.

This finding however contradicts Buigut et al. (2013) who focused on relation between capital structure and share prices in the NSE. Their research looked at effect of debt, equity and gearing ratio on share price which was guided by Modigliani and Miller (MM) theorem. And the final results indicated that debt, equity and gearing ratio are significant of share prices for the manufacturing sector. Further, gearing ratio and debt were found to positively affecting share prices. Some manager's responses agree that a company's debt level does not necessarily affect the return in their stocks however some of them on a low extent consider leverage as one of the factors that affects returns.

5.2.2 Effects of debt-equity ratio on stock returns

This study also sought to find out effects of debt equity ratio on stock returns of non-financial companies listed in the NSE. From regression analysis the study showed that debt ratio is significant as its p-value is 0.011 which is less than 0.05 at 5% level of significance hence stock returns is significantly explained by debt equity ratio. The study findings contradicts with (Hamada, 1972; Dhaliwal, 2006), getting a positive relation on stock returns and leverage. Bhandari (1988) also shows that expected common stock returns on a monthly basis correlate positively with annual debt-to-equity ratios

Study findings are however in line with Dimitrov and Jain (2005) findings that leverage had negative relation with share price, George et al (2006) also found that book leverage had a negative relationship with stock returns specifically on shorter-term debt, or long-term debt issuance. The results are also consistent with the market timing theory that postulates, stock returns are supposed to correlate negatively with leverage since managers tend to act irrationally and lower the debt

ratio in times when the stock price is high (Brealey, Myers & Allen 2011). Several studies have demonstrated that the market timing theory holds such as Masulis & Korwar (1986) and Hovakimian and Tehranian (2004).

The findings also agrees with Dimitrov and Jain (2005) findings that leverage had negative relation with share price, George et al (2006) finding that book leverage had a negative relation with stock returns/share price. The negative effect of leverage change on stock prices appears to be inconsistent with the debt overhang theory of Myers (1977). Most managers also agree with that debt ratio doesn't really affect their decisions when investing.

5.2.3 Moderating effects of firm characteristics on the effects of financial leverage on stock returns.

Also the study wanted to establish the effect of firm characteristics as moderating factors on stock returns of the non-financial firms. From the regression analysis the p value of size was 0.001 showing that size significantly explained stock returns while growth was 0.479 which showed that it growth as moderating factor did not affect returns.

According to most of the respondents firm size had capacity advantages over small firms and this advantage was utilized well by the listed firms. This showed that large firms (originally characterized as firms with large asset base) earns higher returns on average than small firms (Banz, 1981). (Javed and Akhtar 2012) Did a study on the relationship between capital structure and performance concluding that there exist a positive relationship between growth and size of the companies. Most managers agreed on a moderate extent that firm size in terms of log of assets have an impact on the returns of stocks which influences their investment decisions on the stocks to invest in. Also, larger companies have decreasing stock-price sensitivity to leverage, particularly where size is measured by total assets. The results are in line with the market timing theory which explains that financial leverage correlate negatively with stock returns.

5.2.4 Investment manager's perspective on effects of leverage on stock returns

The study used semi-structured questionnaires to get financial managers perspective on leverage and stock returns. The findings from the questionnaire were used to triangulate the findings with that of secondary data. From the primary data, most managers agreed that financial leverage does not affect their returns on stock and they don't necessarily consider a company's level of debt levels before investing in their stock. They however look at a company's size in terms of asset base to base their investment decision. However these findings concurs with the results of Acheampong, P., Agalega, p., & Shibu A,K. (2013) where they found size correlates positively with stock returns. The findings are consistent with findings from the analysis that implied that leverage does not significantly affect stock returns and size is significant in explaining returns.

5.3 Conclusion

The findings revealed that stock returns was significant with debt ratio, debt equity ratio and size but significant with growth of listed firms in Kenya. Also most investment managers believed that debt have a significant relationship on returns. Leverage explained stock returns but the coefficients showed that increase in leverage would cause a decrease in returns except for the moderating variable size. Financial leverage might lead to poor stocks performance of firms due to excessive costs of financing debt that might override the returns obtained from investing in their stocks.

Investors oddly enough seems to not be compensated for the additional risk that higher leverage ratios entail. The reason may be that the market generally misprices leverage or that investor's preferences for high-leverage-stocks are lower and that these therefore yield lower returns due to the lower demand. Also it may be that the higher observed stock returns for less leveraged firms could be compensation for investors for taking on other types of risks. The relationship could further be explained by leverage figures suffering from measurement errors or that some control variables distort the results. Since different empirical studies define leverage differently and use different methodologies for investigating its potential effect on stock returns the results may differ in some way.

5.4 Recommendations

5.4.1 Policy recommendations

The study recommends that non-financial listed firms should consider investing in research to find out the best mix of capital structure that does not negatively affect returns. The research can also focus on findings cheaper sources of debt finance. They should consider where possible, using their internally generated funds to finance their projects and only go for debt financing when they have fully exhausted their internal funds.

5.4.2 Managerial recommendations

The study therefore recommend managers of the listed firms at the NSE should employ minimal debt level or use an optimal debt level which will not affect the firm's performance. This is because of the inverse and negative relation between leverage and stock performance

5.4.3 Contribution to knowledge

The study adds to the body of knowledge in this area and provides more insight on the nature of relationship between leverage and stock returns in the non-financial listed companies. This research can also serve as a reference for future studies in this area.

5.5 Limitations

One of the limitations of this study is that it utilized secondary data sources and might not necessarily reflect the exact needs of the study. This might negatively affect the accuracy and reliability of the results and impact negatively on the findings drawn in this study. Another limitation of this study is that it was limited to four variables only; debt ratio, debt equity ratio, and stock returns. It is imperative to note that stock returns is affected by many factors other than the ones confounders discussed in this study that have a bearing on returns. Other factors considered, it would be important to establish whether the findings will hold or not after which conclusive results can be drawn.

5.6 Suggestions for Further Research

Although the study targeted to study 43 firms, only 28 firms were in existence since 2002 in the NSE for the period under study. The study recommends that future researchers interested in this

field of research might consider investigating all the firms listed in the NSE. This will increase the scope of study and the findings obtained will be more conclusive.

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APPENDICES

APPENDIX I: INTRODUCTION LETTER



19th April, 2017

TO WHOM IT MAY CONCERN

Juliet Chelagat Tangut - 0902756

Miss Juliet Chelagat Tangut is a postgraduate student in our Master of Commerce (MCom) programme. In partial fulfilment of the MCom degree, students are required to carry out a research project and write a thesis on a contemporary subject within their field of specialisation. Among other activities, the project involves data collection and analysis.

Juliet is requesting to gather information to be used in her research. The information she will obtain from your organization will be used for this academic purpose only and will be kept confidential. The results of the survey will be in summary form and will not disclose any individual, company name or company information in any way.

The research study is entitled **"The Effect of Financial Leverage on Stock Returns of Non-Financial Companies Listed in The Nairobi Securities Exchange."**

We hope that your organization can assist by providing information to the above named student.

Yours faithfully,

A handwritten signature in blue ink, appearing to read "Josephat Mwanai".

Josephat Mwanai
MCOM Coordinator
School of Management and Commerce
Email: jmwanai@strathmore.edu

APPENDIX II: INTERVIEW QUESTIONS

This Interview questions is to collect data for purely academic purposes. All information will be treated with strict confidence.

Appendix II: Questionnaire

26/2/2016

To whom it may concern.

RE: REQUEST FOR PARTICIPATION AS A RESPONDENT IN MY RESEARCH STUDY.

I am a Master of Commerce student at Strathmore University doing a study titled “*Effects of financial leverage on stock returns of non-financial companies listed in the NSE*” I am conducting this research in partial fulfillment of the requirements of my Master’s Program.

At this point of my study, the focus is on collecting data that will generate important findings for the investing public, academicians among others. Potential and existing investors will greatly benefit given the findings will shed more light on how leverage influence returns.

I promise to ensure confidentiality of your responses by making no specific reference to your feedback and not to cause any harm to you throughout this process. A full report of this study can be made available to you at your request. I look forward to your participation. Thank you.

SECTION 1: GENERAL INFORMATION

Name of the investment company (Optional)

.....

Gender

Male

Female

Kindly tick against the age group you correspond to:

25 years and below

26-35 years

Over 35 years

Please indicate your highest level of education

Post graduate Graduate Diploma Certificate

What factors do you consider when investing or before investing in stocks of a company?

.....

SECTION 2: Debt Ratio

1.To what extent do you consider level of debt (leverage) of a company as a factor that affects stock returns?

Large extent []

Moderately []

Low Extent []

2. Do you consider a company's debt level before investing on their stocks?

Yes []

No []

3. If yes, what extent level of debt (debt-ratio) influence your investment decision on the stocks of the company?

Large extent []

Moderately []

Low Extent []

4. How frequent has debt levels (high debt-asset ratio) contributed to the fall/rise in returns of stocks in the companies you had invested in?

Never []

Sometimes []

Always []

SECTION 3: Debt-Equity Ratio

5. Do you consider a company's debt-equity ratio before investing on their stocks?

Yes []

No []

6. If yes, what extent level of debt-equity ratio influence your investment decision on the stocks of the company?

Large extent []

Moderately []

Low Extent []

7. How frequent has high/low debt-equity ratio contributed to the fall/rise in returns of stocks in the companies you had invested in?

Never []

Sometimes []

Always []

SECTION 4: Firm Characteristics

8. To what extent do you consider firm characteristics of a company as a factor that affects stock returns?

Large extent []

Moderately []

Low Extent []

9. Do you consider firm size and growth before investing in their stocks?

Yes []

No []

10. Does the level of growth of a company affect your decision to invest in their stock?

Yes []

No []

12. How frequent has level of growth of a company contributed to the fall/rise in returns of stocks you had invested in? (Increase or decrease in sales of the company)

Never []

Sometimes []

Always []

Appendix III: List of Authorized Trading Participants

| | Name of Trading Participant |
|-----------|---|
| 1 | Dyer & Blair Investment Bank Ltd |
| 2 | Francis Drummond & Company Limited |
| 3 | Ngenye Kariuki & Co. Ltd. (Under Statutory Management) |
| 4 | Suntra Investment Bank Ltd |
| 5 | Old Mutual Securities Ltd |
| 6 | SBG Securities Ltd |
| 7 | Kingdom Securities Ltd |
| 8 | AIB CAPITAL LTD |
| 9 | ABC Capital Ltd |
| 10 | Sterling Capital Ltd |
| 11 | ApexAfrica Capital Ltd |
| 12 | Faida Investment Bank Ltd |
| 13 | NIC Securities Limited |
| 14 | Standard Investment Bank Ltd |
| 15 | Kestrel Capital (EA) Limited |
| 16 | African Alliance Securities |
| 17 | Renaissance Capital (Kenya) Ltd |
| 18 | Genghis Capital Ltd |
| 19 | CBA Capital Limited |
| 20 | Equity Investment Bank Limited |
| 21 | KCB Capital |
| 22 | Barclays Financial Services Limited |
| 23 | Securities Africa Kenya Limited |

Appendix IV: Listed Companies at the Nairobi Securities Exchange

| | |
|--------------------------------|--|
| AGRICULTURAL | AUTOMOBILES AND ACCESSORIES |
| Eaagads Ltd | |
| Kapchorua Tea Co. | Car and General (K) |
| Kakuzi | Sameer Africa Ltd |
| Limuru Tea Co. Ltd | Marshalls (E.A.) |
| Rea Vipingo Plantations | |
| Sasini Ltd | |
| Williamson Tea Kenya | |
| | COMMERCIAL AND SERVICES |
| BANKING | Express Ltd |
| Barclays Bank Ltd | Kenya Airways Ltd |
| CFC Stanbic Holdings Ltd | Nation Media Group |
| I&M Holdings Ltd | Standard Group Ltd |
| Diamond Trust Bank Kenya Ltd | TPS Eastern Africa (Serena) |
| HF Group Ltd | Scangroup Ltd |
| KCB Group Ltd | Uchumi Supermarket |
| National Bank of Kenya | Hutchings Biemer Ltd |
| NIC Bank Ltd | Longhorn Publishers |
| Standard Chartered Bank | Atlas Development and Support Services |
| Equity Group Holdings | Deacons (East Africa) |
| The Co-operative Bank of Kenya | Nairobi Business Ventures Ltd |
| | |
| CONSTRUCTION AND ALLIED | ENERGY AND PETROLEUM |
| Athi River Mining | KenolKobil Ltd |
| Bamburi Cement Ltd | Total Kenya Ltd |
| Crown Berger Ltd | Kengen Ltd |
| E.A.Cables Ltd | Kenya Power & Lighting Co Ltd |

| | |
|---|---------------------------------|
| E.A.Portland Cement Ltd | Umeme Ltd |
| | |
| | |
| INSURANCE | INVESTMENT |
| Jubilee Holdings Ltd | Centum Investment Co Ltd |
| Pan Africa Insurance Holdings Ltd | Trans-Century Ltd |
| Kenya Re-Insurance Corporation Ltd | Home Afrika Ltd |
| Liberty Kenya Holdings Ltd | Kurwitu Ventures |
| Britam Holdings Ltd | Olympia Capital |
| CIC Insurance Group Ltd | INVESTMENT SERVICES |
| | Nairobi Securities Exchange Ltd |
| MANUFACTURING AND ALLIED | |
| B.O.C Kenya Ltd | |
| British American Tobacco Kenya | |
| Carbacid Investments Ltd | |
| East African Breweries Ltd | |
| Mumias Sugar Co. Ltd | |
| Unga Group Ltd | |
| Eveready East Africa Ltd | |
| Kenya Orchards Ltd | |
| A.Baumann CO Ltd | |
| Flame Tree Group Holdings Ltd | |
| TELECOMMUNICATION AND TECHNOLOGY | |
| Safaricom Ltd | |
| Real Estate Investment Trusts | |
| Stanlib Fahari I-REIT | |

Appendix V: Companies excluded from the sample

| Companies Listed During the Study Period | | |
|---|--------------------------|-------------|
| | | |
| Name of Company | Listing | Year |
| Safaricom Ltd | Introduction | 2006 |
| Eveready East Africa Ltd | Introduction | 2007 |
| Kenya Orchards Ltd | Introduction | 2015 |
| A.Baumann CO Ltd | Introduction | 2011 |
| Deacons (East Africa) | Introduction | 2011 |
| Longhorn Publishers | Introduction | 2012 |
| Umeme | Introduction | 2012 |
| Flame Tree | Introduction | 2014 |
| Hutchings Biemer Ltd | Introduction | 2014 |
| Nairobi Business Ventures | Introduction | 2016 |
| Scangroup Ltd | Introduction | 2007 |
| Limuru Tea Co. Ltd | Introduction | 2005 |
| | | |
| Companies Suspended or Delisted | | |
| Company | Regulatory Action | Year |
| Rea Vipingo | Suspended | 2013 |
| Access Kenya | Delisted | 2013 |
| Atlas Development | Suspended | 2016 |