

**THE EFFECT OF LEVERAGE ON STOCK PRICES FOR
PUBLICLY LISTED FIRMS IN THE NAIROBI
SECURITIES EXCHANGE**

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**A RESEARCH PROJECT SUBMITTED IN PARTIALFULFILMENT
OF THE REQUIREMENTS FOR THE AWARD OF THE DEGREE
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DECLARATION

I hereby attest that this research project is my original work and that it has never been submitted to this or any other university for the award of a degree.

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This project has been submitted for examination with my approval as the designated University Supervisor.

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I would lastly like to thank God for being with me through the entire journey towards successful completion of this project.

DEDICATIONS

I dedicate this project to my parents, Mr. Zebedeo and Mrs Dinah Onchari. For all the sacrifices you made and all the guidance you have provided. I thank you.

To my cohort of siblings who are too many to name, I also thank you.

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LIST OF ABBREVIATIONS

ANOVA	-	Analysis of Variance
APT	-	Arbitrage Pricing Theory
CAPM	-	Capital Asset Pricing Model
CBK	-	Central Bank of Kenya
CMA	-	Capital Markets Authority
DFL	-	Degree of Financial Leverage
DOL	-	Degree of Operating Leverage
DTL	-	Degree of Total Leverage
EBIT	-	Earnings before interest and tax
EPS	-	Earnings per Share
MM	-	Modigliani and Miller
MPS	-	Market Price per Share
NSE	-	Nairobi Securities Exchange
P/E ratio	-	Price Earnings ratio
ROA	-	Return on Assets
ROE	-	Return on Equity
SPSS	-	Statistical Packages for Social Sciences

ABSTRACT

The study was conducted with the aim of investigating the effect of leverage on stock prices of firms listed on the Nairobi Securities Exchange. In an environment where expansion into new markets and scaling up of operations to gain competitive edge has taken centre stage, it is paramount that investment to increase production must have benefits which are reflected in the price of shares indicating an increase in owners' wealth. The use of leverage has been noted to magnify gains and losses and is usually or inherently accompanied by risks of bankruptcy and volatility in earnings. The study was causal in nature and undertook a descriptive survey against a population of 43 companies that had data that was fit for purpose between the years 2012 to 2016. The data collected was secondary in nature and mined for published audited financial statements obtained from the CMA website. Financial data from statements of comprehensive income and statements of financial position were used to calculate the degrees of operating, financial and total leverage. The study used a regression model to establish the relationship between leverage and stock prices. F-test was used to determine the fitness of the regression model in analysing the relationship. Since the Sig (2-Tailed) value is less than 0.05. It was concluded that there is a statistically significant correlation between the two variables at the 0.01 level. Findings from the regression analysis offered R-square value as 0.865 which indicated a strong positive relationship between the variables of study. The study therefore accepted the hypothesis that there is a relationship between operating, financial and total leverage and stock prices. The study therefore recommends organization to explore opportunities to take advantage of leverage to increase shareholder value.

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

The discussion whether there is a structure of debt and equity that magnifies the value of a company has been the subject of great debate amongst many scholars. These arguments sought to establish relationships between the financial leveraging of a firm and the maximisation of shareholder value. Therefore, the level of gearing is of interest to the modern financial manager who aims to maximise shareholder value in the long run considering the absence of agency conflict and management and shareholder objectives are aligned.

Investors buy stocks with growth potential due to the carrot of capital gains in the long run rather than focusing on the next dividend pay-out. Income stocks on the other hand are shares purchased by investors with the objective of receiving regular cash streams through cash dividends. To increase the company's asset value, these can either be done by growing the owners claim or increasing the claim of a creditor. Increases in asset value points to an increase in shareholder value, epitomised by an increase in the company's value of stock. The firms cost of equity should mirror the return level required by the possessors of these securities. An upswing in the debt level in a firm affects the required return on individual securities. An increase in gearing will cause the debt holders to demand a higher interest rate which leads to an escalation of the expected return.

As the debt versus equity ratio heightens, EPS has been observed to increase. However, when the debt load increases interest expenses rise and cash flow reduces, investors may become nervous the firm will not cover its commitments. If interest escalates, EPS

decelerates and the stock price goes lower. This study attempts to confirm the presence of an affiliation between the degree of leverage and share price. This is done through an empirical study of a representation of entities listed on the NSE.

1.1.1 Leverage

A methodical approach of multiplying or magnifying gains and losses may be referred to as leverage. It often involves purchasing supplementary assets by consuming hired capital, with the assumption that the gains from that asset will exceed or be superior to the additional cost of obtaining the extra financing. The risk in such an event will be that the gains from the acquired asset will be lower than the cost of sustaining it, thereby incurring losses. The utilisation of costs with a fixed element equate to leverage in this case. Operating leverage relates to the firm's operational costs structure while financial leverage points to the equity and debt structural blend.

Leverage employs fixed costs to create efficiencies against variable costs and this relates to operating leverage. However, the way a company chooses to finance its operations through its blend of equity and debt relates to financial leverage. With increased leverage, there is a larger reliance on fixed costs as compared to variable costs and this may cause volatility in the level of earnings. During an upturn in business, a highly leveraged company may magnify its gain and exceed the costs of borrowing, however, during recessions, the opposite is plausible and an organisation may face increased costs of borrowing and inherently bankruptcy costs.

Leveraging is a measure of the financial risk of an entity's capital structure. It has been argued that leverage ratios measure the degree of protection of funds. Optimal capital management strategies ensure that income from capital financed projects surpass the cost of financing e.g. Loan interest commitments. Nirmala et al (2011) suggested that gearing ratio is a possible determinant of share prices alongside other criterion such as PE ratio and dividend. According to Koech (2013), with the use of leverage, firms are exposed to financial risk. This risk arises due to the obligations to meet interest payments and settle the principal sum. As this risk arises, there is variability in the earnings of the firm which impacts on the EBIT and EPS of the entity.

Financial judgements are highly dependent on the economic conditions prevailing at certain points in time. The current interest rates will be an important factor in deciding whether to institute debt financing or otherwise. Low interest rates generally lead to higher investment activity than periods where interest rates are higher. Leverage can be unpacked as financial leverage and or operating leverage. These two are interrelated in that, if an organisation lowered its operating leverage it would lead to a surge in the firms use of financial leverage and vice versa. Brealy et al (2001), define financial leverage as the degree to which an organisation funds its operations using debt. They further state that the utilization of financial leverage can significantly shift shareholders' earnings, herein referred to as payoffs but that by assuming leverage, the company may not necessarily alter the cost of capital of the company.

1.1.2 Share price

A stock or a share is a single unit of purchasable or sellable equity of a company. A stock price is the most current shilling value that a person is prepared to pay in exchange for a share in an arm's length transaction through the approved securities exchange market. Market price is the value at which an asset or service can be purchased or sold. It's the point of equilibrium where supply and demand intersect and any shocks on the buy or sell side will cause the price of the asset or service to shift. Interactions between market intermediaries are what manipulates stock price by adjusting the spreads between bids and asks to balance out the equilibrium between supply and demand.

Additionally, share prices can be affected by change in macro and microeconomic variables, the public confidence and information in the share and largely driven by financial performance, dividend policy or capital appreciation. Stock valuation is a theoretical and methodical approach of calculating the prices of shares and attempting to predict or envisage the future prices at which these shares will trade. This enables market players to play the exchange and profit from movements in the prices of counters on different days. Stocks which are deemed to be under-priced are purchased and the ones that are made out to be overpriced are sold off. By assessing fundamental characteristics and intrinsic properties of a stock through detailed analysis of the company's past performance and future prospects a valuation of shares can be made through valuation models done by analysts. Primarily, stocks are valued using the discounted cashflow technique where cash profits are discounted to the present value using a rate derived using (CAPM) through a fundamental earnings analysis. Earnings per share are the net income - excluding non-cash items such as depreciation - available to holders of common equity. It's computed as the

net income divided against the number of shares. A consistently growing EPS ratio indicates that a firm is on the growth path. The P/E ratio is the most common valuation technique and is computed by dividing the MPS using the EPS ratio.

Brealy et al (2001) argue that a company's share does not equate to its proportional share of its book value which translates to the total carrying value and subtracting the the carrying value of all liabilities simply equated to its proportion of equity. Balance sheet carrying values are based on historical costs and are subjected to subjective accounting practices e.g Depreciation and also sometimes do not represent the true realisable value of the total net assets of the company. A more accurate measure would be the going concern value of the firm which would take into consideration items such as intangible assets, the value of future investments and resultant cash flows. Assuming an efficient market, all securities should lie along a security market line that plots risk measures against the rate of return expected. Meaning returns of any securities should be risk adjusted given that all the information that can upset the share price is publicly held or available. It has however been found that a number of features of a firms for example, leverage, book to market value, size and price earnings ratios are related to excess return. These findings are normally referred to as market anomalies, since in an efficient market it shouldn't be possible to make excess profit earnings on the basis of observable firm characteristics (Fama and French, 1992).

1.1.3 Leverage and Share price

A company's use of leverage affects its risk and return relationship. It seeks to underpin a company's future cash flows and the risk analogous with those cash flows and, hence, its valuation. A change in the number of units produced and thereafter retailed affects the operating earnings as well as net income. Brigham and Ehrhardt (2002) define capital

structure as an instrument of control which can go either way for a firm. The decisions made by firms to make investments have a direct effect on the entity's value. The entity's value may be calculated by computing the present value of all cash flows expected in the foreseeable future by the firm through the use of mean cost of capital. The cost of capital can be reduced by imposing an optimum blend of equity and debt.

It's a commonplace scenario for financial managers to suggest that leveraging up the balance sheet by assuming more debt financing is to the benefit of holders of equity of the entity. The argument being that by increasing debt and reducing the cost of capital on a weighted average basis, there will be an increase in the entity's value. An argument from a behavioural perspective proposes that taking up debt brings about economical discipline to and otherwise casual-spending or spendthrift nature of management. It is said to ring fence spending and enable cost efficacy to be achieved.

An increase in the amount of debt finance should only be temporarily so and not long term. This is to enable an investment in growth prospects which are then beneficial in the long term as the burden of financing falls off and the fruits of investment arise. However, in some if not most instances, an increase in leverage often leads to management conservatism where spending is curtailed even when these will lead to potentially viable investments. In this case, leverage may lead to a reduction in growth of revenues and ultimately a fall in earnings per share.

Barasa (2012) opined that the utilisation of leverage affects the worth of the entity. She argues that the use of fixed charge sources such as debt is purposed to lead to greater earnings than the costs involved and that any surplus will then increase the equity of owners

and vice versa. As explained by Al Otaibi (2015), generally, any increase in leverage will fundamentally increase the exposure to risk despite the upside potential of increased revenues. It therefore also follows that a reduction in leverage will also lead to a reduction in risk and subsequently a fall in returns.

1.1.4 The Nairobi Securities Exchange

The NSE is domiciled in Kenya which is one of the growing economies in Africa. Trading of Shares begun in the 1920s but structures, rules and trade regulations had not been embedded at the time and were based on agreements of gentlemen. Not until 1954 was the NSE founded, approved by the London Stock Exchange and registered as a voluntary organisation of stockbrokers made up of about 22 stockbrokers who owned shares in the exchange, and it was up until 2014 that the exchange, through a process of demutualization made an IPO to become a publicly listed entity. NSE self-listed after its demutualization in 2014. The board and management of the NSE comprises of leading capital markets experts who are focused on innovation, diversification and operational excellence in the Exchange.

The exchange deals with both variable and fixed income securities and is divided into four segments including. There are 65 listed companies as at 2017 cutting across various sectors of the Kenyan economy. NSE performs an important function in the expansion of the Kenyan economy by encouraging savings and investment, as well as helping local and foreign firms' access economical capital. NSE operates under the ambit of the CMA.

1.2 Problem Statement

As organisations lever up by assuming additional debt capital there's an apparent increase in the systematic and unsystematic risks. Leveraging has been termed as a double edged

sword, in this regard assuming credit finance enables the firm to invest in enabling activities or structures that may increase profitability and ultimately the entity's value as reflected by the share price eg, expanding distribution channels, purchasing IT infrastructure or investing in people. However, the downside to this play is the increase in finance costs and risks of bankruptcy as well as strain on cash flows.

Many firms, especially the less established, early stage development or start-up businesses may be faced with liquidity challenges as they try to establish their presence in an otherwise competitive environment. Another scenario is during an economic downturn and the company cannot fund its operational obligations. In such instances the entity may have to reach out to its financiers to source for additional funds. A comparative analysis of the most advantageous source of financing is of paramount importance. Whereas debt does not dilute control in the company, the incremental cost of interest obligations may further stress the company despite tax benefits, the risk of financial distress makes debt an unattractive option.

Majority of the work covered in this topic has been done in more advanced economies and less so in emerging countries. This study will focus on public listed firms on the NSE, establish their level of financial and operating leverage and show the impact this has on the market price of shares. Studies in Kenya mainly have touched on the influencers of capital structure or the composition or mix of capital for example Amadeus (1996) 'A study of capital structure in Kenya'.

A study by Njeru (2010) "Capital Structure of private firms in Kenya" focused mainly on computing the gearing ratio of a sample of private firms in Kenya.

The same applies for most studies outside Kenya where they centre on the capital structure influencers and financial performance impacts. This study focuses on the impact of leverage and how that impacts on the market price of shares. A number of organisations worldwide and specifically in Kenya have faced liquidity crunches in a bid to expand operations, for example, Uchumi and Nakumatt Supermarkets, National Bank and Chase Bank. Uchumi expanded rapidly and even after a rights issue was still unable to meet rising supplier costs and had to seek government interventions through treasury. Nakumatt Supermarket was weighed down with huge debt which also led to an increase in risk and it is now unable to stay afloat and had to seek a joint venture with Tuskys supermarkets. The questions that arise are: Does an increase in the level of total leverage increase the riskiness of the firm? What is the resultant relationship between the effect of leverage and share price?

1.3 Objective of the Study

The objective of the study is to establish the effect of leverage on the price of shares of publicly listed firms in the NSE.

1.4 Value of the Study

This study will seek to establish the impact of leveraging on returns which provides managers of firms both listed and unlisted with empirical findings and informative data that will offer decision support when faced with capital budgeting problems. This study will also help management be alive to and understand costs of capital that encumber equity holders as a result of their capital funding decisions. This will in turn also aid the modelling of free cash flows to prop up liquidity of the firm.

This study will assist promising entrepreneurs to acquire information that will be benefit their capital structure understanding by integrating insight from this study to the stewardship of their respective businesses. The study will aid regulatory and government bodies such as the Capital Market Authority in Kenya, the Ministry of Finance and others on how they can provide an environment that enables the stability of companies operating in the country.

CHAPTER TWO: LITERATURE REVIEW

2.1 Introduction

This section reviews relevant empirical and theoretical literature already carried out in different areas. It also encompasses conceptual literature and empirical studies on leveraging which have a relationship to share price. Theories that explain leveraging are discussed, the measurement approach of leveraging and empirical evidence on these relationships are elaborately reviewed.

2.2 Theoretical Literature

There is a pool of theories that aim to demystify the debt policy or blend that maximises the value of an entity. These are discussed in detail herein.

2.2.1 Modigliani and Miller Theories

According to Modigliani and Miller's (1958) pivotal publication, the decision to acquire an asset is dependent on the fact that it increases the earnings of the organisation. This implies that the average yield of cash inflows due from the use of the asset exceed the cost of financing that asset through debt or any encumbrances thereof. In their second criterion, they opine that the acquisition choice is purely based on the fact that this will ultimately increase the value of the entity and as such adds to the market value of the entity.

Under the first proposition, the entity's value remains unaffected regardless of whether the source of financing is debt or equity hence the notion of the irrelevance of capital. They further state that in a market where there are no limitations or imperfections such as, bankruptcy costs, the impact of taxes and transactional costs then there is no impact on the entity's EBIT ergo the value of the levered entity will always be equal to the value of the unlevered entity.

In their consequent paper Modigliani and Miller (1963) argue as an organisation increases the level of debt finance, then the return required by holders of common equity will increase proportionally with the increase dependent on the spread between the expected return of all assets across the portfolio and the return expected on the debt capital. There is therefore a premium requirement attached to sourcing debt capital.

The first and second propositions infer that with an increase in financial leverage there is no impact on shareholder value and that the rate of return that is required is increased respectively. It follows that shareholders may be indifferent to an increase in leverage despite the potential upswing in returns given that any potential benefits are exactly offset by the risk that the additional funds expose the company to and therefore the required return increases.

Baxter (1976) built on these earlier theories by advocating that a corporation with an increased proportion of debt will be exposed to and probably experience higher bankruptcy costs. He pointed out legal fees, reorganisation and liquidation costs that could arise in the case of a firm that acquires capital through credit finance. The study will seek to establish whether increases in the level of debt leads to increases in profitability and thereby reflected in the share price, consistent with MM assertions.

2.2.2 Pecking Order Theory

The pecking order theory brought the idea of information asymmetry or a lack of alignment of an organisation's opportunities between management and other stakeholders. This was first argued by Donaldson (1961) and then also Myers and Maljuf (1984). Brealey and Myers (2003) state that due to this gap in information or so called information asymmetry,

the choice between financing operations through debt or equity is impacted. A pecking order then arises, given the exhaustion of internally generated funds, where the activities of the entity will be financed through debt initially and only issue equity when the risks and costs of financial distress limit the company.

Profitable firms generally shy away from external financing due to the availability of slack earnings which it may use to pursue investment opportunities without necessarily impacting existing shareholders negatively. Less profitable firms will behave in the reverse since they do not have internal sources of financing in terms of cash or marketable securities that can be liquidated should the situation arise. It therefore follows that the relationship between profitability compared to financial leverage is inverse. This will be important in establishing whether most firms increase or resort to leveraging up financially as opposed to resorting to equity finance.

2.2.3 Market Timing Theory

Baker and Wurgler (2002) put forward the equity market timing theory which points to the way organisations issue new equity when prices are high and buy back or repurchase these shares when the prices are low. The intention is to seize advantage and profit from temporary oscillations in the cost of equity when compared to the costs attached to variant forms of capital raising. The suggestion here is that entities will issue new stock when the feeling is that the stock is overvalued. As such, the cyclicity of share prices affects the firm's level of leveraging. The question herein lies; does a high market price of shares coincide with a reduction in the level of debt finance?

2.2.4 Free Cash Flow Theory

Jensen (1986) explained that the interests of shareholders and managers may not be aligned where excess cash flows are concerned. It is probable that managers may use surplus cash flows to invest in non-viable projects which would have a negative net present value in the case of empire building activities. Shareholders would much rather receive these excess funds back through dividend and see financial leverage as a means of curtailing wanton expenditure and irresponsible investment. A reduction in cash flows also through the expected payment of debt encumbrances also manages the issue of excess cash flows. This will be important in establishing whether dividend issue also coincide with increase in the level of debt.

2.3 Empirical Literature

A number studies have been prepared regarding leveraging and its relationship to various aspects of the firm. In this section we will look at research on the relationship between stock price and leveraging. These relationships are backed by various empirical studies and proposals that this section will disclose.

Yoon and Jang (2005) considered the effect of financial leverage on profitability and the risks that restaurants were exposed to in the United States of America for the period between 1998 to 2003. Secondary data was collated from online databases and the discoveries proposed that firm size had a much more telling effect on ROE of restaurants than use of debt with larger returns observed amongst the relatively larger organisations. Results also concluded that despite having a relatively lower degree of leverage, smaller firms will invariably be riskier than the bigger firms.

Muradoglu and Sivaprasad (2008) studied the impact of firms' leverage on stock returns. They conducted analysis at both firm and portfolio level. They discovered for utilities sector there was an increase in returns with an increase with leverage which is consistent with classical MM theories. However, for other sectors i.e consumer goods and services and industrial sectors, the relationship was negative. They determined that the positive relationship shared between leverage and returns on shares is unique to certain sectors. The results showed that the risk class that the firm belongs to has a bearing to the direction of this relationship.

Bhatti and Majeed (2010) studied the effect of leverage on stock returns and systematic risk in the corporate sector of Pakistan. They sought to understand the relation between the issue of systematic risk occasioned by leverage. The data cut across various sectors of the Pakistani economy using data from the Karachi Stock exchange. The research analyzed data through use of formulas of return, leverage and standard deviation, using these formulae on Microsoft Excel. The finding of the study was that there was a higher volatility in stock prices with increasing levels of leverage due to the creation of an increasing level of systematic risk.

Adongo (2012) carried out a study to establish the effect of financial leverage on profitability and risk of publicly listed entities at the NSE between 2007 and 2011. The population consisted of 30 samples excluding 15 Insurance companies and banks as these are under regulatory jurisdiction and are required to meet prescribed measures of liquidity and leveraging. Source data was analyzed using correlation and regression analyses to determine the properties of the relationship shared between variables. Based on these analyses, it was observed that there existed a variation in profits which indicated a negative

relationship with leverage. Additionally, there was an observation of a positive relationship between leverage and risk. Even after adjusting returns for risk, there still existed a negative relationship with leverage. This indicated an immaterial relationship between returns adjusted by risk and financial leverage.

Emenyi (2013) observed the affiliation of agency cost and leverage of public companies at the NSE. The population was composed of all firms for the period from 2008 to 2011. A representative sample of 34 entities was determined and studied with data from NSE and CMA databases. While controlling for growth in revenue and firm size, the study employed a regression to consider the relationship between agency cost and leverage. The study found that there was a noteworthy relationship shared between agency cost and leverage.

Nyameyo (2014) studied the effect of financial leverage on financial performance of microfinance institutions in Nakuru County. Data samples were extracted from financial statements of seven micro finance institutions in Kenya as of June 2013. Census was used in getting the information. Data consisted of information covering a five-year period from 2009-2013 then entered into SPSS for analysis. A regression model was used to show the relationship between debt to equity ratio, portfolio to assets ratio and operating expense ratio (Independent variables) with financial performance (the dependent variable). The study noted that there was a significantly affirmative relationship shared between the two variables. It was proposed that the Central Bank of Kenya should encourage commercial banks to use leverage in managing risks given given the multiplicative nature of leveraging. She further argued that firms should manage and blend elements of total leverage in ways that minimize firm risk and boost earnings.

A study by Al-Otaibi (2015) aimed to scrutinize the impact of financial leverage on the performance of Saudi firms. The study used regression analysis on a sample gathered from the Saudi stock exchange in the years 2011 and 2012 using debt ratio as independent variable & ROA and ROE as dependent variables representing financial leverage and firm performance respectively. The results of the research indicated a noteworthy relationship shared with ROE, however there was no material relationship between the independent variable & ROA. Finally, the study suggested that the relationship shared between the debt ratio and ROE was positive meaning that the financial leverage negatively affects one of the measures of performance.

A study by Shrestha and Subedi (2015) studied determinants of stock market performance in Nepal. The study employed a multiple linear regression model to evaluate 18 data samples. The study showed that stock market performance returned positively to inflation and growth in money supply and negatively to interest rates. It also showed that availability of liquidity and low rates of interest stimulate stock market performance.

2.3 Determinants of Share Prices

A stock or a share is a single unit of saleable equity capital of a company or other financial asset. A stock price is the most recent shilling amount that an individual is willing to pay for a stock in an arm's length transaction through the authorised securities exchange. Share price is an arguably and relative characteristic that affects investment decision. A major determining factor of the prices of shares is the point of convergence between demand and supply forces. Sharma (2011) suggests that EPS is also a key factor impacting on share prices.

Beaver (1998) in his three links theory suggested that earnings in the current period given indications that could be used to forecast or project earnings in the future and how this will affect or influence dividend policy which then in turn influences the price of shares. This theory attempts to assess the linkage between earnings made by the firm and changes in market value or share price depending on assumptions made based on current earnings. In this case, the share price mirrors the present value of all dividends that are probable in future.

Sharma (2011) proposed that MPS was dependent on many factors including, DPS, Dividend pay-out and yield and the entity's size. These in turn are affected and thereby impact on share price by earnings, net profit and book values.

CAPM was formulated by Sharpe (1964). The model scrutinizes the effects that risk has on expected return of a given investment in relation to a market portfolio. It highlights correlation between return and systematic risk with a keen focus on the beta.

APT was proposed by Ross (1976). The theory proposes that stock market returns are influenced by economic variables through their effect on discount rates and future. The theory developed a theoretical framework that associates share returns with variables that can influence sources of income volatility other than systematic risk beta.

2.4 Types of Leverage

There are two main types of leverage as follows:

2.4.1 Degree of Operating Leverage

DOL refers to the variation that arises in EBIT given a proportionate change in the volume or quantity of sales. It has been referred as the first stage of leverage. With a change in the value of fixed costs in comparison to variable costs of an organisation, the operating leverage shifts. An increase in the quantum of fixed costs increased the degree of operating leverage and as such this leads to volatility in EBIT given a change in the level of sales. As DOL increases, so does the volatility of the EBIT figure as this becomes more sensitive given a change in the volume of sales *ceteris paribus*. This therefore impacts on the earnings and potential earnings of an entity.

2.4.2 Degree of Financial Leverage

DFL refers to the variation that arises in EPS given a proportionate change in EBIT. It has been referred to as the second stage of leverage. As financial leverage increases, so does the risk involved. This kind of leverage affects earnings after interest and taxation. It further optimizes the impact of operating leverage and this is why it is referred to as the second stage of leverage. Financial leverage tends to increase with an increase in the level of credit finance involved in an entity's blend of debt and equity.

2.4.3 Degree of Combined (Total) Leverage

DCL is a ratio that encapsulates the dual outcome that DOL and DFL have on EPS given a change in sales. As there is growth in total leverage, so does the riskiness of the organisation owing to utilization of a higher proportion of fixed costs in its operating expense structure.

2.5 Conceptual Framework

Independent Variable
Variable

Dependent

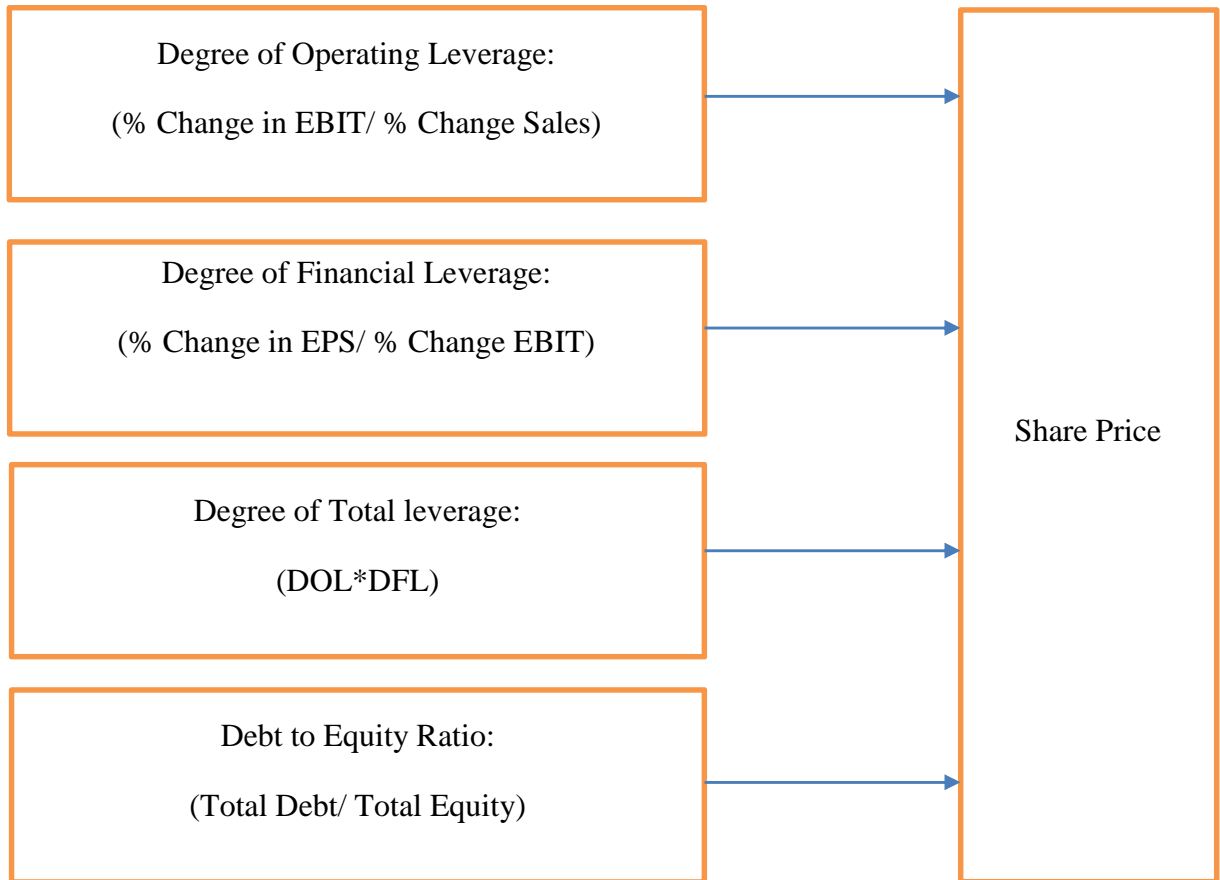


Figure 2.1: Conceptual Framework

The independent variable in this study is the degree of financial leverage while the dependent variable is the stock price. Increasing level of debt is expected to increase the returns of the company and improve the stock price. Increased operating leverage is also expected to increase the share price.

2.6 Summary of the Literature Review

The review of literature and text done in this chapter was done with the target of meeting the research objectives and the effect of leverage on share prices. An organisation that assumes debt finance to fund operations and thereby increasing its production will inherently be posed with a higher degree of systematic risk. However, the risk return comparison still holds with the higher the risk the higher the returns. Firms which assume a higher level of debt finance have been known to show an increase in earnings, a reduction of taxes and summarily a magnification of operational income without necessarily diluting the ownership of the firm.

This is consistent with the views shared in the APT and CAPM models where earnings and risk respectively are the biggest contributors to a firms share price. However, with an increase in leveraging both earnings and risk may be multiplied. Whilst the topic has been covered somewhat to varying degrees and objectives, the major study gap that exists is how does the assumption of leverage magnify returns and what impact does this have on share price which is the single largest identity of the worth of an entity. Most of the research done has largely been around capital structure and how it influences firm performance. On the topic of leverage, the few studies that have been done investigate the relationship between leverage and agency costs and the effect of leverage on firm performance of microfinance institutions in Nakuru county.

CHAPTER THREE: RESEARCH METHODOLOGY

3.1 Introduction

This research undertakes quantitative techniques to establish the link between leverage and share price from a section of entities that operate in the Nairobi securities exchange. This has been done through the quantitative analysis of secondary data. Outlined herein is the research design, methodology, data sources, data gathering and collation approaches and analyses involved.

3.2 Research Design

The study employed a descriptive survey which involves finding a relationship between important variables and establishing the frequency with which this relationship is observed. This considers the relationship concerning leverage and market price of shares of entities listed on the NSE. This is because research on this topic has not been exhausted conclusively. This was carried out to gain further appreciation of the causal relationship shared between these variables. The study is quantitative and attempts to evidence relationships between the capital structure and stock market price given financial data from the study populations. This was carried out due to the nature of the study problem and the obtainability of financial data which would explain these linkages.

The study as focussed on public listed companies in Kenya because data from these companies is readily available as opposed to data from private companies. Moreover, data from public companies is more reliable in view of the opinions expressed by auditors. Public companies are subject to greater scrutiny by institutional and retail shareholders, regulators such as the CMA, the revenue authority, the media as well as employees.

3.3 Study Population

The study covers financial data from 58 companies listed on the NSE as at June 2017. The list of companies is included in appendix 1. These companies publish their financials on a periodic basis as part of their regulation requirements. This offered a database of financial data from which information can be mined and analysed. This study focuses on the entire population excluding special market segments.

3.4 Sampling

The entire study population was selected to eliminate sampling errors and biases for the period under consideration. However, only 43 companies were deemed fit for purpose in the course of the study with regard to completeness of data.

3.5 Data Collection

The research was largely deduced from secondary data for the reasons given in section 3.1 above. The data was the published annual financial statements from the Year 2012 to 2016 of the sampled companies listed on the NSE. These were accessed from internet sources where the NSE as well as the individual companies publish their financial statements for investor relationship management as well as to meet regulatory guidelines.

3.6 Data Processing and Analytical Model

Data obtained will be verified and coded to enable classification into categories. The data will then be analysed using a regression model to show the causal relationship shared between leverage and stock price. The SPSS data analysis tools version 17.0 will be employed. The independent variable in this study is the degree of financial leverage while the dependent variable is the stock price. Increasing level of debt is expected to increase

the returns of the company and improve the stock price. Increased operating leverage is also expected to increase the share price.

$$\text{Regression model: } \text{MPS}_t = \alpha + \beta_1 \text{DOL}_t + \beta_2 \text{DFL}_t + \beta_3 \text{DTL}_t + \beta_4 \text{DER}_t + \hat{\epsilon}_t$$

Where; $\text{MPS}_t =$ (Market price per share (M.P.S))

$\alpha =$ intercept of the equation.

$\beta =$ slope coefficient of each of the independent variables.

$\text{DOL}_t =$ Degree of Operating Leverage

$\text{DFL}_t =$ Degree of Financial Leverage

$\text{DTL}_t =$ Degree of Total Leverage

$\text{DER}_t =$ Debt to equity ratio

$\hat{\epsilon}_t =$ Error Term

3.6.1 Operationalization of the Variables

Market Price of Shares (Y)

This is the share price of the sample population under study

Degree of Operating Leverage (X₁)

$$\text{DOL} = \frac{\% \text{ change in EBIT}}{\% \text{ change in Sales}} \quad \text{or} \quad \frac{\text{Contribution}}{\text{EBIT}}$$

Degree of Financial Leverage (X₂)

$$\text{DFL} = \frac{\% \text{ change in EPS}}{\% \text{ change in EBIT}} \quad \text{or} \quad \frac{\text{EBIT}}{\text{EBIT} - \text{Interest}}$$

Degree of Total Leverage (X₃)

$$\text{DFL} = \frac{\% \text{ change in EPS}}{\% \text{ change in Sales}} = \text{DFL} \times \text{DOL}$$

Debt to Equity Ratio (X₄)

The debt to equity ratio is measure as the proportion of debt against the total shareholder funds

$$\text{DER} = \frac{\text{Total Debt}}{\text{Total Shareholder funds}}$$

3.7 Tests of Significance

To describe the data analysed, descriptive statistics will be used and a t-test will be employed to test for significance at 5%. The model will be checked for heteroskedacity and multicollinearity.

H_0 : There is no relationship between leverage and share price

H_1 : There exists a significant relationship between leverage and share price

CHAPTER FOUR: FINDINGS AND DISCUSSION

4.1 Introduction

The chapter presents a granular description and an analysis of the findings from data collected. The data was organised and analysed in a manner that responds to the earlier stated objective of the study, which is *'to establish the effect of leverage on the price of shares of publicly listed firms in the NSE.'* Whereas the study targeted an initial sample of 58 companies listed on the NSE as at June 2017, data from only 43 companies fulfilled the investigator's conditions of being publicly available, sufficient and adequate to cover the objective of the present study. As such, the response rate was 74%, which has been shown to be quite common when sampling inanimate objects like public financial records of companies (Groves et al., 2012). Just like Ary et al. (2010, p.563) recommended, a data analysis was conducted in tandem with the data collection, to overcome time and resource constraints. Graphical tables would aid in the data presentation.

4.2 Correlation findings

From data collected from the 43 companies attached in appendix 1, Karl Pearson's coefficient correlation was used for testing the extent of the variables' correlation. Hair et al. (2010) observes that a high correlation needs to be demonstrated between independent variable(s) and the dependent variable (s) whereas the independent variables demonstrate a low correlation against one another. The present research on the extent of linear relationship between (operating leverage, financial leverage, total leverage, debt to equity ratio) and market price per share demonstrate positive coefficients of DOL_t 0.500, DFL_t 0.000, DTL_t 0.000 and DER_t 0.000, significant at 0.01 level. Such findings indicate that

the study's independent variables (DOL_t , DFL_t , DTL_t and DER_t) move in the same direction as the dependent variable MPS_t , which is the Market price per share for the public listed firms at the NSE. As such, this establishes an association or relationship in that an improvement or increase in Operating Leverage, Financial Leverage, Total Leverage and Debt to equity ratio would result into an improvement in the share price. The table 1 overleaf portrays the raw findings obtained from the SPSS analysis:

Table 1: Correlation between operating leverage, financial leverage, total leverage, debt to equity ratio and market price per share

		DOL_t	DFL_t	DTL_t	DER_t	MPS_t
DOL_t	Pearson correlation	1	0.045	0.044	0.099	0.161
	Sig. (2-tailed)	-	0.817	0.824	0.606	0.500
DFL_t	Pearson correlation	0.045	1	0.448*	0.755**	0.819**
	Sig. (2-tailed)	0.817	-	0.014	0.000	0.000
DTL_t	Pearson correlation	0.044	0.448*	1	0.385*	0.642**
	Sig. (2-tailed)	0.824	0.014	-	0.037	0.000
DER_t	Pearson correlation	0.099	0.755**	0.385*	1	0.795**
	Sig. (2-tailed)	0.606	0.000	0.037	-	0.000
MPS_t	Pearson correlation	0.161	0.819**	0.642**	0.795**	1
	Sig. (2-tailed)	0.500	0.000	0.000	0.000	-
*Correlation significant at 0.05 level (2-tailed test).						
** Correlation significant at 0.01 level (2-tailed test).						

4.3 The Model Summary

From model summary findings, $R = 0.930$, $R\text{ Square} = 0.865$, the adjusted $R\text{-Square} = 0.843$ and the Standard Error of the Estimate $SE = 0.185$. Multiple coefficients from the Pearson's correlation indicate the level of a linear relationship between four predictor variables (operating leverage, financial leverage, total leverage and debt to equity ratio) and the dependent variable (market price per share). Moreover, a coefficient of multiple

determinants R-Square indicates a provision of the aggregate variation in the market price per share of companies' stocks listed on the NSE, which is explained by DOL_t , DFL_t , DTL_t , DER_t and MPS_t in a regression equation. R-Square offers a coefficient of determination between variables. Findings from a regression analysis offer 0.865 as the value of R-Square, meaning that 86.5% of the four independent variables result into changes on the dependent variable, which is the market price per share, as portrayed in table 2 overleaf:

Table 2: The Model Summary

Model	R	R-Square	Adjusted R Square	SE
1	.930*	.865	.843	.185
a. Predictors: (constant), operating leverage, financial leverage, total leverage and debt to equity ratio				

4.4 ANOVA

To understand significance of regression model, a test was done by employing ANOVA (analysis of variance). The table 3 demonstrates the findings from the ANOVA test. The regression model exhibited significance at $p=.000$, implying that it was not computed by coincidence; this is due to the fact that the significance value .000 is lower than .05. As such, the findings from regression can be taken to be reliable and credible.

Table 3: ANOVA

Model		SS	Df	Mean Square	F-value	Significance
1	Regression	5.263	3	1.754	38.252	.000 ^b
	Residual	.839	23	.036		
	Total	6.102	27			
a. Dependent variable: market price per share						
b. Predictors: (constant), operating leverage, financial leverage, total leverage, debt to equity ratio						

4.5 Regression Analysis

The present research employed a simple regression model to assess the following two hypotheses earlier defined in the study:

H_0 : There is no relationship between leverage and share price

H_1 : There exists a significant relationship between leverage and share price

A simple model for multiple regression analysis was employed to test for relationship between one independent variable –operating leverage- and the dependent variable (market price per share). The findings are portrayed in the table 4 overleaf:

Table 4: Coefficients of operating leverage and market price per share

		Unstandardized coefficients		Standardized coefficients	t	Sig.
Model		B	SE	Beta		
1	(Constant)	3.538	.610		5.8	.000
	Operating leverage	.129	.160	.170	.806	.500
a. Dependent variable: market price per share						

As in table 4 above, the findings of the simple linear regression indicate that a linear relationship exists between operating leverage and market price per share of the public companies listed on the Nairobi Stock Exchange (NSE); a 12.9% operating leverage variation is explained by 87.1% variation in market price per share. This has been supported by the 0.500 p value. The findings imply that a higher operating leverage could result into optimistic expectations of management, and is linked to the potential cash flows of the entities. The implication of this finding is that operating leverage could lead into shifts in the MPS of stocks listed in the NSE, and thus have a wider impact on the MPS of a stock. This highly contrasts with the Elangkumaran and Balasundaram (2013) study

based on the Sri Lanka stock exchange, who observed that only 3% of share price is attributed to degree of operating leverage, and there was no significant relationship with the share price.

A simple model for multiple regression analysis was employed to test for relationship between one independent variable –financial leverage- and the dependent variable (market price per share). The findings are portrayed in the table 5 overleaf:

Table 5: Coefficients of financing leverage and market price per share

		Unstandardized coefficients		Standardized coefficients	t	Sig.
Model		B	SE	Beta		
1	(Constant)	1.776	.304		5.842	.000
	Financing leverage	.558	.076	.820	7.342	.000
a. Dependent variable: market price per share						

As in table 5 above, the findings of the simple linear regression indicate that a linear relationship exists between financing leverage and MPS of the public companies listed on the NSE, a 55.8% financing leverage variation is explained by 44.2% variation in market price per share. This has been supported by the 0.000 p value, which is lower than the 0.05 level of significance. The outcomes infer that an escalation in financing leverage could result into positive shifts in the MPS of stocks listed in the NSE, and thus have a wider impact on the MPS of a stock.

A simple model for multiple regression analysis was employed to test for relationship between one independent variable –total leverage- and the dependent variable (market price per share). The findings are portrayed in the table 6 below:

Table 6: Coefficients of total leverage and market price per share

		Unstandardized coefficients		Standardized coefficients	t	Sig.
Model		B	SE	Beta		
1	(Constant)	2.136	.442		4.834	.000
	Total leverage	.482	.110	.642	4.382	.000
a. Dependent variable: market price per share						

As in table 6 above, the findings of the simple linear regression indicate that a linear relationship exists between total leverage and market price per share of the public organisations listed on the NSE; a 48.2% financing leverage variation is explained by 51.8% variation in market price per share. This has been supported by the 0.000 p value, which is lower than the 0.05 level of significance. Moreover, this has been supported by a report from Safaricom (2017) which attributes the company’s capital structure (with regards to its high leverage) as a reason behind the company’s increasing market price per share.

Barclay and Smith (2005) further observe that increasing the debt level in the capital structure of a firm can act as a realistic indicator of the firm’s expectations of higher future cash flows, enhancing the market price per share of such firms. Management of a firm which has heightened its total leverage is, unconsciously, signaling to the market that it is attentive to the state of the business; the management believes that the performance of the firm can enable it to pay off its debts (Barclay & Smith, 2005; Ross, 1977).

A simple model for multiple regression analysis was employed to test for relationship between one independent variable –debt equity ratio- and the dependent variable (market price per share). The findings are portrayed in the table 7 below:

Table 7: Coefficients of Debt-Equity ratio and market price per share

Model		Unstandardized coefficients		Standardized coefficients	t	Sig.
		B	SE	Beta		
1	(Constant)	2.228	.272		8.191	.000
	Debt to Equity ratio	.464	.069	.796	6.725	.000
a. Dependent variable: market price per share						

As in table 7 above, the findings of the simple linear regression evidence that a linear relationship exists between debt to equity ratio and MPS of the public organisations listed on the NSE; a 46.4% debt-equity ratio variation is explained by 53.6% variation in market price per share. This has furthermore been supported by the 0.000 p value, which is lower than the 0.05 level of significance.

The findings are similar to the Safania et al. (2011) study which was done on organisations listed on India’s National Stock Exchange, and it demonstrated that a long term debt-equity ratio had meaningful positive relationships with share prices of companies’ stocks, for two years investigated, at $p < 0.05$. Moreover, the companies investigated in the Safania et al (2011) study had been listed members of the country’s national stock exchange for at least four years (2007-2010), and this is similar to the duration that the companies investigated in the current study have been listed members in the Nairobi Securities Exchange (four years, 2012-2016). Such similarities with the Safania et al. (2011) study improve the reliability of this particular finding.

Table 8: Regression coefficients of relationships between operating leverage, financing leverage, total leverage, debt-equity ratio and market price per share

		Unstandardized coefficients		Standardized coefficients	t	Sig.
Model		B	SE	Beta		
1	(Constant)	.475	.357		1.331	.196
	Operating leverage	.254	.069	.437	3.681	.010
	Financing leverage	.163	.063	.204	2.587	.012
	Total leverage	.227	.083	.334	2.735	.001
	Debt to Equity ratio	.251	.065	.335	3.862	.000
a. Dependent variable: market price per share						

The findings in table 8 above demonstrate that if all other independent variables are taken to be constant: unit increase in operating leverage results into .254 increase in MPS; unit increase in financing leverage results into .163 increase in MPS; unit increase in total leverage results into .227 increase in MPS; and unit increase in debt to equity ratio results into .251 increase in MPS.

Moreover, the findings displayed in table 8 above demonstrate that the four independent/predictor variables (degree of operating leverage, degree of financing leverage, degree of total leverage, debt-equity ratio) show a significant relationship with dependent variable (MPS).

In this manner, the investigator rejects the null hypothesis and accepts the alternative hypothesis. This is because at the four significance levels observed, which less than 5% (.000, .001, .012 and .010), the findings observed are happening too frequently for the

investigator to ignore the high possibility that the four independent variables have an impact on the MPS.

As such, the resultant regression model is:

$$\mathbf{MPS_t = 0.475 + 0.254DOL_t + 0.163DFL_t + 0.227DTL_t + 0.251DER_t + \hat{\epsilon}_t}$$

Whereby

MPS_t = Market price per share

DOL_t = Degree of Operating Leverage

DFL_t = Degree of Financial Leverage

DTL_t = Degree of Total Leverage

DER_t = Debt to equity ratio

From the findings, what the investigator observes is that having more debt increases the debt-equity ratio and thus impacts on the MPS; raising the debt-equity ratio could be in effect be lowering the cost of capital (CC). Lowering the CC maximizes the debt-equity ratio and this has a positive association with the price of stock of the firm. Furthermore, a bigger debt ratio results into more optimistic management expectations of future positive cash flows, in line with the Pecking Order theory of Myers (1984) earlier observed in literature review, which holds that should a firm require some sort of external financing, then it opts for debt as a first choice and equity financing as a last resort. The argument is that firms listed on the NSE stick to a hierarchy of sources for finance, preferring debt over equity when available. However, the pecking order theory does not explain the variances

in the capital structures of firms operating in varying sectors; for example, firms listed by the NSE under 'commercial and services' industry demonstrate a higher debt-equity ratio than the firm listed in 'telecommunication and technology'.

It is also possible that equity financing of the NSE-listed firms present fewer risks to the shareholders of such firms. The investigator has observed instances whereby new shares being offered to existing shareholders have a price that is discounted, and this can attract investment into the shares. Moreover, the investigator observes that the decrease in the share prices after new equity issue is reliant on the ownership structure of the firm. This is in line with the MM theory which holds that a firm's cash flow is split between the government, equity holders and debt holders; a capital structure maximizing on the firm's own value would minimize the cash flowing to government as corporate taxation. It appears that debt is favourable to the market price per share, since it minimizes costs; if a firm has a fixed policy of debt repayment, then the firm does not incur costs. It appears financial decisions also improve the MPS of stocks listed on the NSE and improve the confidence of the investors. Moreover, leveraging decisions are highly important as leverage shifts could decrease or increase the constraints on firms' share prices: debt increase results to increase in MPS of NSE-listed companies and the possibility of acquiring cheap debt is attractive to the NSE-listed firm, for both profitable investments and expansion. Such observation is corroborated by the Margaritis and Psillaki (2011) findings, which holds that an organisations capital structure is a representation of its liabilities, and this significantly impacts on the share price of the firm.

4.6 Summary

The investigator rejects the null hypothesis and accepts the alternative hypothesis. The four independent/predictor variables (degree of operating leverage, degree of financing leverage, degree of total leverage, debt-equity ratio) show a significant relationship with dependent variable (market price per share); the findings of the simple linear regression indicate that a causal linear relationship exists between financing leverage and market price per share of the public companies listed on the Nairobi Stock Exchange (NSE); between operating leverage and market price per share; between total leverage and market price per share; and between debt-to equity ratio and market price per share. Leveraging decisions are highly important as leverage shifts could decrease or increase the constraints on firms' share prices: debt increase results to increase in market price per share of NSE-listed companies.

CHAPTER FIVE: SUMMARY OF FINDINGS CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

Financial managers are tasked with the primary objective of most companies, maximising shareholder wealth as reflected in the share price of the organisation's stock. As such, financial managers will employ various techniques to ensure this profit maximisation objective is achieved. Leverage presents one of a number of opportunities that exist to magnify gains despite the risks involved. This chapter encapsulates the analysis done in chapter four bearing in mind the review of empirical literature discussed in the literature review. Conclusions are drawn and the implications and impacts from findings are assessed. Further to this, limitations of the study and a summary of recommendations are made while suggestions are made to aid further studies in such and related topics.

5.2 Summary of Findings

The overarching objective of this study is investigating the effect of leverage on stock prices for firms listed on the NSE. To realize said objective, regression analysis was employed where market price per share was pitted against the predictor variables: degree of financial leverage, degree of operating leverage, degree of total leverage and debt to equity ratio for the period between 2012 and 2016 for a section of firms listed on the NSE. Financial statements formed the data extracts of said firms and thereafter subjected to a regression analysis.

Findings from the regression analysis offer 0.865 as the value of R-Square. Meaning the evidence shows a strong positive association between the two variables and further that 86.5% of the independent variables result into variations on the dependent variable, which is the market price per share.

Since the Sig (2-Tailed) value is less than 0.05. It can be decided that there is a statistically significant correlation between the two variables at the 0.01 level. This means that there is a strong relationship between the two variables.

The analysis of variance on table 3 show that the regression model was evidenced to account for 5.263 (86.25%) out of 6.102 variations in stock price with the rest being accounted for by other exogenous factors (13.75%). Leverage was therefore found to be strongly linked with the price of stock. It was exhibited that the probability value of 0.000 meaning that the regression model was statically significant in predicting the relationship between leverage and share price.

If all other independent variables are taken to be constant: unit increase in operating leverage results into .254 increase in MPS; unit increase in financing leverage results into .163 increase in MPS; unit increase in total leverage results into .227 increase in MPS; and unit increase in debt to equity ratio results into .251 increase in MPS. The four predictor variables exhibited a strong correlation with the dependent variable. Significance levels observed at the four significance levels were less than 5%.

There is therefore a positive linear correlation between operating leverage, financial leverage, total leverage and debt equity ratio compared to the market price of stock. This is therefore consistent with earlier assertions and empirical studies which concluded that by increasing leverage of the firm, despite the inherent risks that go with the magnification of gains, there is an apparent increase in the process of shares owing to the increase in returns. The volatility of returns is expected in such a case but overall share price increases with the increase in leverage.

5.3 Conclusion

Financial managers will seek to capitalize on leverage whenever there is an opportunity to do so in order to maximise on the level or return they provide to shareholders. Despite the risks of bankruptcy and increased finance costs, it may be a worthy course to take to increase profitability and thereafter the market price of shares.

Organisations with higher operating and financial leverage often create the potential or capability to increase the volume of return by increasing the contribution margins. This is done by investing heavily in machinery or systems as well as distribution channels that magnify earnings and the financing for this is usually debt, particularly for incubation stage companies as well as other more established ones.

Once scale is achieved and breakeven point is determined, then the magnification of earnings becomes much more apparent, despite the risks of bankruptcy and increased financing costs, the contribution from sales to profit is significantly higher with higher fixed costs than if the greater percentage of costs were variable in nature.

It's however worthy to note that leverage can easily destabilize an organisation if not managed efficiently and diligently. The decision to lever up a firm should not be perceived lightly or be done at a whim or on impulse. It needs to be carefully considered and applied with caution to prevent the firm from being exposed from the pitfalls of bankruptcy and unpredictability of cash flows. Financial forecasts should guide such decisions and these have to be as realistic and prudent as possible augmented by proper sensitivity analyses and scenarios while a proper risk management framework needs to be deployed with various risk appetite measures to monitor exposure and ensure that the leveraging decisions fall within the risk appetite of the organisation by and large.

Any borrowed funds should therefore be placed in the areas where they are most needed, managed frugally and with caution in projects where the most return in the medium to long term will be achieved to avoid corporate collapse. It is through such measures that an increase in leverage will result in increased earnings and eventually an uptick in the share price.

5.4 Recommendations

The study exhibited a positive relationship between leverage and share price. An increase in leverage is therefore positively linked to an increase in share price with the R-square value of 0.865. The growth of the financial and corporate sector is dependent on fostering a climate where organisations can take advantage of leverage opportunities to magnify earnings. This however must be done by making prudent and correct financial decisions with regard to capital budgeting. Any investments made must ideally be worth it, with the return and cash flows from investment far exceeding the cost of capital and initial setup costs.

The overarching objective of a vast majority of organisations is minimization of cost and maximisation of profit. The strategies employed to ensure this happens are inherently risk and must be managed at corporate level and regulatory level to ensure that the fine lines between financial success and distress are well distinguished.

Organizations should perform stress tests and scenario analyses to investigate opportunities available to maximize earnings through the use of leverage. This will enable an increase in cash flows which eventually will grow the value of the company as reflected in the share price. In order to do so, these firms need to invest heavily in structures that will enable the reduction of variable costs relative to fixed costs through technology investments and people investment. This however needs to be done with caution to avoid bankruptcy risks and corporate collapse.

Utilising debt as a method of financing has the advantage of retaining control within the current crop of shareholders. It's a pricey move but also encourage management to invest in projects which give the highest return by holding management accountable to meeting the cost of capital and prevent investment in projects with a negative or low NPV or empire building activities which may not represent shareholder interests a la agency conflict.

Regulatory bodies also need to supervise the level of financial leverage to prevent firms from tipping over to the dark side of bankruptcy on inability to service debt. By reviewing liquidity ratios, debt ratio and capital adequacy, regulatory bodies can prevent firms from increasing financial leverage to dangerous levels which can increase the level of finance costs that can cripple a firm as it can be weighed down by high finance costs especially

when the cost of borrowing increases. These regular reviews and monitoring activities act as a tertiary line of defence that protects firms from wanton leveraging.

5.5 Limitations of the study

This study only focused on publicly listed companies on the NSE. A number of other private entities may have different experiences and the findings may not hold true across the board. Given that the vast majority of the organisations on the NSE have been in existence for a while, the experience may be different for early stage or incubation stage entities. Especially given that attracting enough debt capital to fully experience the effects of operating leverage may be hard to come across initially.

The period of study covered a five year period between 2012 and 2016. A longer period may yield different results as different operating and economic environments may foster different levels of growth in earnings of the company. Economic regimes change from time to time and the current experience may not necessarily be similar under a different regime.

Of the 58 companies that have been listed on the NSE, only 43 companies had complete data sets that were fit for the purpose of the study and were readily available. This limited the scope of the study albeit not to a material extent. Additionally, despite the fact that financial statements are prepared using certain principles and standards, some leeway is allowed with regard to certain policies estimates and judgements applied by management of different companies and across different industries which may skew the reliability of the data.

5.5 Suggestions for further research

Further research work may seek to extend the period of study to more than 5 years to cater for different regimes when economic factors were different to establish whether the same results achieved in this study will hold true. By extending the period under study, the reliability of the relationships observed may give a more telling picture than a shorter time frame which has been used for this study.

To establish the flipside of leveraging, further studies may be conducted to quantify and give further insights on the risks that leveraging may pose to different companies at different stages of their development and how to counteract and mitigate against such risks. Since risks are part and parcel of leveraging and an increase in returns, this may be key to inform financial managers of potential pitfalls which they may plan against when considering leverage.

A sectoral analysis may also be of value to exhibit how variant forms of leveraging affect companies in different sectors of the economy. While some forms of leveraging may be beneficial to a certain class of industries, this may not necessarily hold true in other industries and that the experience may be different.

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**APPENDIX 1: LIST OF PUBLICLY LISTED FIRMS ON THE NSE
AS AT 2016**

AGRICULTURAL	
1	Eaagads Limited
2	Kakuzi Limited
3	Kapchorua Tea Company Limited
4	Limuru Tea Company Limited
5	Sasini Tea and Coffee
6	Williamson Tea Kenya Limited
AUTOMOBILES AND ACCESSORIES	
7	Car & General Kenya
8	Marshalls East Africa
9	Sameer Africa Limited
BANKING	
10	Barclays Bank of Kenya
11	CfC Stanbic Holdings
12	Diamond Trust Bank Group
13	Equity Group Holdings Limited
14	Housing Finance Company of Kenya
15	I&M Holdings Limited
16	Kenya Commercial Bank Group
17	National Bank of Kenya
18	National Industrial Credit Bank
19	Standard Chartered of Kenya
20	Cooperative Bank of Kenya
COMMERCIAL AND SERVICES	
21	Express Kenya Limited
22	Hutchings Biemer Limited
23	Kenya Airways
24	Longhorn Kenya Limited
25	Nation Media Group
26	Scangroup
27	Standard Group Limited
28	TPS Serena
29	Uchumi Supermarkets
CONSTRUCTION AND ALLIED	
30	ARM Cement Limited
31	Bamburi Cement Limited
32	Crown-Berger (Kenya)
33	East African Cables Limited
34	East Africa Portland Cement Company
ENERGY AND PETROLEUM	
35	Kengen
36	KenolKobil

37	Kenya Power and Lighting Company
38	Total Kenya Limited
39	Umeme
INSURANCE	
40	British-American Investments Company
41	CIC Insurance Group
42	Liberty Kenya Holdings Limited(formally CFC Insurance)
43	Jubilee Holdings Limited
44	Kenya Reinsurance Corporation
45	Sanlam Kenya Plc (formally Pan Africa Insurance Holdings)
INVESTMENT	
46	Centum Investment Company
47	Olympia Capital Holdings
48	TransCentury Investments
INVESTMENT SERVICES	
NSE	Nairobi Securities Exchange
MANUFACTURING AND ALLIED	
49	A Baumann and Company
50	BOC Kenya Limited
51	British American Tobacco Limited
52	Carbacid Investments Limited
53	East African Breweries
54	Eveready East Africa
55	Kenya Orchards Limited
56	Mumias Sugar Company Limited
57	Unga Group
TELECOMMUNICATIONS AND TECHNOLOGY	
58	Safaricom

Source: NSE Website (23/9/2017)