

**EFFECT OF FINANCIAL LEVERAGE ON CORPORATE  
INVESTMENT FOR NON FINANCIAL FIRMS LISTED AT THE  
NAIROBI SECURITIES EXCHANGE**

**BY**

**NGIGI POLINE NJERI**

**D61/72528/2014**

**A RESEARCH PROJECT SUBMITTED IN PARTIAL FULFILMENT  
OF THE REQUIREMENT FOR THE AWARD OF THE DEGREE OF  
MASTER OF BUSINESS ADMINISTRATION, SCHOOL OF  
BUSINESS, UNIVERSITY OF NAIROBI**

**OCTOBER 2015**

## DECLARATION

I, the undersigned, declare that this research project is my original work and that it has not been presented in any other University or Institution for academic purposes.

Signature.....

Date.....

NGIGI POLINE NJERI

D61/72528/2014

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

Signature.....

Date.....

SUPERVISOR

PROF. JOSIAH O. ADUDA

DEAN, SCHOOL OF BUSINESS

## **ACKNOWLEDGEMENT**

If it were not for you Lord, I would not have made it this far. Thank you for the strength, good health and knowledge that has helped me to complete this project. Thank you for sending great colleagues my way, learning was interesting because of them.

My sincere appreciation goes to my supervisors, Professor Josiah O. Aduda and Dr. Cyrus Iraya from school of business, University of Nairobi, thank you for your dedicated guidance throughout the project.

I thank Nairobi Securities Exchange and Capital Market Authority staff for the assistance and support during data collection. Finally, my special thanks to my family for the moral support, financial support, encouragement and your understanding when I had to be away during the entire period of the study, your love and endurance strengthened me greatly. May our Almighty God bless you all abundantly.

## **DEDICATION**

I dedicate this project to my husband Gakinya, my sons Kamau, Ngige, Njenga; your love made this dream a reality and to my loving parents Bernard Ngige and Phyllis Muthoni who raised me up, sacrificed many immeasurable things in life for my education.

# TABLE OF CONTENTS

DECLARATION .....	ii
ACKNOWLEDGEMENT .....	iii
DEDICATION .....	iv
TABLE OF CONTENTS.....	v
LIST OF TABLES .....	viii
LIST OF ABBREVIATIONS.....	ix
ABSTRACT.....	x
CHAPTER ONE: INTRODUCTION.....	1
1.1 Background of the Study .....	1
1.1.1 Financial Leverage .....	4
1.1.2 Corporate Investment .....	5
1.1.3 Leverage and Investment.....	6
1.1.4The Nairobi Securities Exchange .....	8
1.2 Research Problem .....	9
1.3 Research Objective .....	11
1.4 Value of the Study .....	11
CHAPTER TWO: LITERATURE REVIEW.....	13
2.1 Introduction.....	13
2.2 Theoretical Review .....	13
2.2.1 Neoclassical Theory .....	13
2.2.2 The $q$ Theory of Investment.....	14
2.2.3Accelerator Theory of Investment.....	15
2.2.4 Pecking Order Theory .....	16
2.2.5 Static Trade-Off Theory .....	17
2.2.6 Agency Theory .....	19

2.3 Determinants of Corporate Investments .....	20
2.3.1 Quantitative Factors.....	20
2.3.2 Institutional Factors .....	20
2.3.3 Macroeconomic Factors .....	21
2.4 Review of Empirical Studies .....	21
2.5 Chapter Summary .....	26
 CHAPTER THREE: RESEARCH METHODOLOGY .....	 27
3.1 Introduction.....	27
3.2 Research Design.....	27
3.3 Population .....	27
3.4 Population Sample .....	28
3.5 Data Collection .....	28
3.6 Data Analysis .....	29
 CHAPTER FOUR: DATA ANALYSIS, RESULTS AND DISCUSSION .....	 31
4.1 Introduction.....	31
4.2 Response Rate.....	31
4.3 Reliability and Validity Test Results .....	31
Table 4.1 Reliability Statistics .....	32
4.4 Descriptive Results .....	32
Table 4.2 Descriptive Statistics of the Study Variables.....	32
4.5 Inferential Results .....	33
4.5.1 Correlation Results .....	33
Table 4.3 Correlation Test Results.....	34
4.5.2 Regression Analysis .....	35

Table 4.4 Regression Model Summary.....	35
Table 4.5 Analysis of Variance.....	36
Table 4.6 Regression Coefficients .....	36
4.6 Interpretation of the Findings.....	38
<b>CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION.....</b>	<b>40</b>
5.1 Introduction.....	40
5.2 Summary of Findings.....	40
5.3 Conclusion .....	42
5.4 Recommendations to Policy and Practice.....	42
5.5 Limitations of the Study.....	43
5.6 Suggestion for further Research.....	44
<b>REFERENCES.....</b>	<b>46</b>
<b>APPENDICES.....</b>	<b>51</b>
<b>APPENDIX 1.....</b>	<b>51</b>
Listed Companies on the Nairobi Stock Exchange.....	51
<b>APPENDIX II: Independent Variables.....</b>	<b>53</b>

## LIST OF TABLES

Table 4.1 Reliability Statistics .....	32
Table 4.2 Descriptive Statistics of the Study Variables.....	32
Table 4.3 Correlation Test Results.....	34
Table 4.4 Regression Model Summary.....	35
Table 4.5 Analysis of Variance.....	36
Table 4.6 Regression Coefficients .....	36



## LIST OF ABBREVIATIONS

EBIT	Earnings before Interest and Taxes
GDP	Gross Domestic Product
GSE	Ghana Stock Exchange
CMA	Capital Market Authority
JSE	Johannesburg Stock Exchange
MM	Modiglian and Miller
NPV	Net Present Value
NSE	Nairobi Securities Exchange
POT	Pecking Order Theory
Q	Tobin'q (ratio of market value of a company stock to the replacement book value)
ROE	Return on Investment
SPSS	Statistical Packages for Social Sciences

## **ABSTRACT**

Investment decision always attracts financing decision, hence making financing and investment relationship a central issue in the study of corporate finance. The objective of the study was to establish the effect of financial leverage on corporate investment of non-financial firms listed at the Nairobi Securities Exchange for a period of five years (2009 - 2014). A casual research design was adopted for the study. The study made use of secondary data which was obtained from NSE library, CMA and firm's annual reports which are publicly available. Population consisted of 62 listed firms out of which, 45 companies were to be studied. The 17 financial: banks and insurance firms were not considered due to the regulatory in the sector. The response rate was 82.2% ie 37 firms out of 45. The research used quantitative techniques in analyzing the data using SPSS version 21.0 The study found that financial leverage has a significant negative effect on corporate investment. Liquidity also has a negative effect on investment. The firm's decision on investment is directly related to the Cash flow, Profitability, Firm size and Growth whereas an inverse relationship exists with Leverage and Liquidity. Management should explore other variables like incentive to managers, good corporate governance and prudent use of available resources to improve the firm's performance.

# CHAPTER ONE: INTRODUCTION

## 1.1 Background of the Study

The impact of leverage on investment decisions of firms has been a topic of interest in Finance. Modiglian and Miller, (1958) in their irrelevance theory proposed that in a world of perfect capital markets, no transaction costs and taxes, investment decisions are irrelevant to the use of leverage. This proposition was however challenged by other scholars. Myres, (1977), Jensen, (1986), Stulz, (1990), Lang et al, (1996) argued that in imperfect market conditions and presence of asymmetric information, leverage could be related to investment decisions.

Leverage is any technique that amplifies investor profits or losses. It's commonly used to describe the use of borrowed money to magnify profit potential (financial leverage), but it can also describe the use of fixed assets to achieve the same goal (operating leverage). Other than issuing large or little amount of debt, firms also have options of arranging lease financing, use warrants, issue convertible bonds, sign forward contracts or trade bond swaps. Financial leverage measures a firm's exposure to financial risk that results from the presence of fixed financial charges in the firm's investing activities in the cash flow. Leverage of a firm is measured by leverage ratios. These ratios measure the long-term effect financial strength of a firm. The ratios are the debt-equity ratio and times interest earned ratio.

Investment has been defined variously by different authors. Reilly and Keith (2009) defined investment as the current commitment of dollars (money) for a period of time in order to derive future payments that will compensate the investor. While, ordinarily, some goods are goods with no opportunity cost such as the air we breathe and sunshine, what we invest in is not. Mayo (2006) argues that this term is ambiguous. He points out that in an Economics class the term refers to the purchase of a physical asset while in a Corporate Finance course the term could apply to any asset including market securities. An investment decision always include the immediate sacrifice of current benefits for better future returns. With the rising trend of fund management services all around the world, it becomes inevitable to have a very good understanding of how an investor thinks and responds to different investment avenues (Khaparde and Bhute, 2014).

Keynes (1936) macro-economically defined investment in terms of the current investment in an economy. According to Keynes, current investment is the current addition to the value of capital equipment which results from the productive activity within the period. To Keynes, investment is that part of the period's income which has not passed into consumption. Investment is, therefore, a measure of the additions to, and replacements of, the stocks of fixed assets. It consists of investment in structures, equipments and software. Investment rate refers to expression of investment as a percentage of the Gross Domestic Product in a specified period.

Almost any human decision carries some risk, but some are much more risky than others. There are several definitions of risk. Risk is defined as the potential that a chosen action or activity will lead to a loss. Risk can be seen as relating to the probability of uncertain future events. However, in finance, Farlex Financial Dictionary defines risk as the uncertainty associated with investment. That is, risk is the possibility that the actual return on an investment will be different from its expected return. A vitally important concept in finance is the idea that an investment that carries a higher risk has the potential of a higher return.

Default Risk is the uncertainty associated with the payment of financial obligations when they come due. Interest Rate Risk is the uncertainty associated with the effects of changes in market interest rates. Price Risk is the uncertainty associated with potential changes in the price of an asset caused by changes in interest rate levels and rates of return in the economy. Liquidity risk is the uncertainty associated with the ability to sell an asset on short notice without loss of value. A highly liquid asset can be sold for fair value on short notice. Financial risk is the uncertainty brought about by the choice of a firm's financing methods and is reflected in the variability of earnings before taxes. This risk is often discussed within the context of the Capital Structure. Market risk is defined within the context of the Capital Asset Pricing Model (CAPM), the economy wide uncertainty that all assets are exposed to and cannot be diversified away. Business risk is the uncertainty associated with a business firm's operating environment and reflected in the variability of EBIT.

### **1.1.1 Financial Leverage**

Financial leverage is the extent to which a firm uses debt (Hillier, Jaffe, Jordan, Ross and Westerfield, 2010). As debt increases financial leverage increases. Most of scholars have studied financial leverage and its related attributes in developed and emerging capital markets. This has led to different outcomes and results Modiglian and Miller pioneering work and other scholars revealed that the financial leverage is one of the most influencing factors in determining the firm growth.

Gill and Mathur (2011) using a sample of 166 Canadian firms listed on the Toronto Stock Exchange, revealed that financial leverage on Canadian firms is influenced by the collateralized assets, profitability, effective tax rates, firm size, growth opportunities and number of subsidiaries.-Bancel and Mittoo (2004) surveyed 87 managers in 16 European countries on the determinants of capital structure. They concluded that firms financing policies are influenced by both their institutional environment and their international operations. Firms determine their optimal capital structure at trading off costs and benefits of financing. Brounen, de Jong and Koedijk, (2004) using a larger sample of 313 managers across European nations concluded that influence of a quotation at a stock exchange induces several factors to be only relevant in public firms. Public firms tend to time new issues on the basis of their stock price and also consider debt relevant to become unattractive in case they become target of takeover.

De Jong, Kabir and Nguyen (2007) analyzed country specific factors in the leverage choices across 42 countries around the world. It was observed that factors like GDP

growth rate, bond market development and creditor right protection explains the variations in capital structure across countries. In the countries with better law enforcement system and more health economy, firms are not only likely to take more debt but the effects of some firm level determinants of leverage such as growth opportunities, profitability and liquidity are also reinforced.

Cui (2011) using 1995-2011 data of 10,636 firms in 23 developing countries reviewed determinants of leverage in public firms. It was found that the nationality of a firm can predict its debt ratio. After controlling GDP and inflation rate, difference of culture across countries can explain different capital structure decision of firms in these countries. Managers in individualistic developing countries are more likely to use less leverage for the fear of losing their human capital due to bankruptcy. Firms in more corrupt countries will be financed with more debt for this provides more monitoring ability to investors than equity.

### **1.1.2 Corporate Investment**

This refers to investments that is made by companies rather than by governments or individuals. Investment decisions refer to foregoing of resources in order to increase the total amount of resources which can be consumed in future. According to Pandey (2004), an investment decision is defined as a firms decision to invest its current funds most efficiently in long term assets in anticipation of an expected flow of benefits over a series of years. Investments involve outflows (payments) of cash using inflows (receipts) of cash.

Firms have real options such as option to defer, abandon or expand investments that provide them with optimality on the real side of their business (Chevalier, Roignant et al., 2011). Any investment is evaluated for viability using various evaluation models set by the management of the organization. According to Dean (1951) only investment opportunities whose internal rates of return exceed market determined cost of capital should be accepted. The objective of an investment decision is to acquire an asset, real or financial for less than its value so that corporate wealth can be increased. Projects with a positive NPV are usually recommended. Management might want to increase the size of the firm and increase free cash flows to conduct activities that are in their best interest while the interest of the firm is ignored (Jensen,1986) and (Stulz, 1990). They keep on investing even in negative NPV projects. This results in a positive relationship between leverage and investment as management uses debt to keep up the level of investment.

Debt can also serve as a protection mechanism not to overinvest as bondholders have to be paid and also avails a chance for bondholders to evaluate management (Jensen, 1986; Aivazian et el, 2005; Zhang, 2005). This results in a negative a negative relationship between leverage and investment for management is reluctant to pay the required principal and interest which increases default. Underinvestment is expected to occur in the presence of high growth opportunities.

### **1.1.3 Leverage and Investment**

Myres (1977) analyzed the possible externalities generated by debt on shareholders (and managements) optimal investment strategy. The idea is that debt overhang reduces the



incentives to shareholders- management coalition in control of the firm to invest in positive NPV investment opportunities, since the benefits accrue, at least partially to the bondholders rather than accruing fully to the shareholders. Highly levered firms are less likely to exploit valuable growth opportunities compared with firms with low levels of leverage. A related underinvestment theory centers on a liquidity effect in that firms with large debt commitment invest less irrespective of the nature of their growth opportunities.

Theoretically, even if debt creates potential underinvestment incentives, the effect could be attenuated by the firm taking corrective action and lowering its leverage, if future growth opportunities are recognized sufficiently early. Leverage is optimally reduced by management ex ante in view of projected valuable ex post growth opportunities, so that its impact on growth is attenuated. A negative empirical relation between leverage and growth may arise even in regressions that control for growth opportunities because managers reduce leverage in anticipation of future growth opportunities. Leverage signals the management's information about investment opportunities.

Under agency problem, overinvestment is a concern as the conflict between the shareholders and the management, where poor projects are undertaken in expanding the scale of a firm hence reducing shareholder returns. Management's ability to carry out such a policy is constrained by the availability of free cash flow and this constraint can be further tightened by use of debt. The issuance of debt precommits the firm to pay cash as interest and principal, forcing the managers to service such commitments with funds that may have otherwise been allocated to poor investment projects. Leverage is one

mechanism for overcoming the overinvestment problem suggesting a negative relationship between debt and investment for firms with weak growth opportunities. McConnel and Servaes (1995), using a large sample of non-financial US firms for years 1976, 1986 and 1988 concluded that the corporate value is negatively correlated with leverage for the firms with strong growth opportunities (indicated by Tobins Q), and a positively correlated with leverage for firms with weak growth opportunities (or low Tobins Q). Their results are consistent with the hypothesis that leverage induces underinvestment and reduces firm value, as well as the hypothesis that leverage attenuates overinvestment and increases firm value.

Firms with strong growth prospect have expectations of higher cash flows and this may reduce moral hazard and adverse selection problems inherent in the supply of credit to the firm in the capital market. For such firms, leverage is less of constraint on investment since a firm with strong growth prospects can more easily refinance and recapitalize in the capital market. For firms with weak growth prospect, leverage would be a tighter constraint limiting investment, since such firms would find it harder to recapitalize given their perceived weak growth prospects.

#### **1.1.4The Nairobi Securities Exchange**

The Nairobi Securities Exchange (NSE) was founded in 1954 and was then known as the Nairobi Stock exchange. NSE is the principal stock exchange for the Kenyan market and the greater East African region. In 2011, its name was changed to the Nairobi Securities Exchange in line with its strategic plan to support clearance and settlement of equity, debt

derivatives and bonds (NSE, 2014).The NSE is licensed and regulated by the Capital Markets Authority of Kenya. Essentially the stock market is one of the closely observed economic phenomenon since market indicators determine stock performance. Market indicators quantify movement in stock prices and act as a standard in evaluating returns on money invested in the securities exchange.

The NSE comprises of 64 listed companies which been classified to identify them with various sectors in the economy (NSE, 2015). Growth of firms listed in the Nairobi Securities Exchange is critical in attaining economic expansion in Kenya and the greater East African region. There are a number of key reasons for NSE listed to seek consistent and sustainable growth. The most important ones are diversification, stability, operating economics and profit. In addition, Asset growth translates to increase in shareholders' equity through capital gains while ensuring greater future revenues and earning capacity for the NSE listed firms. The East Africa region in which Kenya is the largest economy is an emerging market and as such is characterized as strong growth market (International Monetary Fund, 2014).Firms listed in the Nairobi Securities Exchange 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.

## **1.2 Research Problem**

Most of the firms have inadequate funds to cater for capital investments. Any manager making investment decision has also to make the financing decision. Finances can be

from equity or debt. For optimal results, the mix of debt and equity should be determined optimally. Financing an investment through debt is considered cheaper than using equity because its tax deductible Pandey (2010). Equity financing becomes necessary when leverage is high enough to make debt expensive due to financial distress costs Myres and Mujluf, (1984).

Holz (2002) found that capital structure (debt ratio) is positively related with the firm performance. Dessi and Robertson (2003) found that financial leverage affected the expected performance positively, as low growth firms depend on the borrowing in order to utilize the growth opportunities in investing in profitable projects and maximize the firm performance. These results show the managements willingness to finance viable projects with borrowed funds in order to maximize the shareholders wealth.

Several companies are experiencing declining performance and some have even been delisted from the NSE in the last decade. Momentous efforts to revive the ailing and liquidating companies have focused on financial restructuring. However managers and practitioners still lack adequate guidance for attaining optimal financing decisions (Kibet, Kibet, Tenei&Mutwol (2011) yet many of the problems experienced by the companies put under statutory management were largely attributed to financing (Chebii, Kipchumba and Wasike, 2011). This situation has led to loss of investors' wealth and confidence in the stock market. Oruko (2011) found that there is no relationship between financial leverage and shareholder return. In almost similar research carried out Barasa (2012) found that financial leverage has a negative and significant effect on stocks

return. Siro (2013) observed that borrowing does not always improve a firm's performance and hence should use more of equity so that they minimize the risk related to borrowing. Literature on financial leverage shows that most research has been done in the developed economies.

Locally, few related study on the prevailing topic was done on establishing the relationship between leverage and investment decision of selected companies listed at NSE compared with studies on the same in the developed economies. Based on this, the study seeks to fill the existing research gap by determining the effect of financial leverage on corporate investment and how this is explained by existing theories and by seeking explanation as to what extent firm size, growth opportunities, profitability, non-debt shield, leverage and firm's cash flow affect corporate investment in non-financial firms listed at NSE.

### **1.3 Research Objective**

The objective of the study is to determine the effect of financial leverage on corporate investment of non-financial firms listed at the Nairobi Securities Exchange.

### **1.4 Value of the Study**

The study contributes to the literature on the factors that influence financial leverage of the non-financial firms listed at the NSE. It will also enhance the existing information and enable further researchers in their various studies.

The study will also be useful for managers and policy makers of firms listed at NSE as in it will provide more insight on the relationship between financial leverage and corporate investment. Investors generally invest in company shares with a view of enhancing their returns in form of dividends or interest on funds lent for investment. The study will be of importance to them in that they will be able to know where to invest their funds. CMA, the body charged with the role of regulating the stock market will be able to understand the differing levels of financial leverage on non-financial firms listed at the NSE.

## **CHAPTER TWO: LITERATURE REVIEW**

### **2.1 Introduction**

The chapter discusses the literature related to the effect of financial leverage on corporate investment on non-financial firms listed at the NSE. It is dwelling on past studies related to the current phenomenon. The source of the literature is from related articles, textbooks, journals and the internet.

### **2.2 Theoretical Review**

This section contains review of theories relevant to the study. These theories attempt to relate investment and financial leverage with financial strength and performance of a firm.

#### **2.2.1 Neoclassical Theory**

The Neo-classical theory argues that the rate of interest is the important determinant of investment. The model assumes that the desired stock depends not only on planned output but also on the ratio of output price to the implicit rental price of the services of capital goods (Bischoff, 1971). Basically it derives from a profit maximization process aimed at desired capital given a Cobb-Douglas production function. Bodie, Alex and Marcus (2009) note that Keynesian (demand-side) economists look at effects of taxes on consumption demand whereas supply-siders (Neoclassical) argue that lowering tax rates will elicit more investment and improve incentive to work. Accordingly, monetary policy

works largely through its impact on interest rates. Increases in the money supply lower interest rates which in turn stimulates investment demand.

This theory is important to this study because it explains how investments triggers the rate of growth. Through savings and capital accumulation, the firms are able to undertake profitable ventures which in turn spurs the economic development. Importance of efficient markets leads to many investors taking up the investment opportunities and these leads to increase in per capita income.

### **2.2.2 The $q$ Theory of Investment**

This model was developed by Summers (1981) based on investment equations involving Tobin's  $q$  for estimating the impact of tax policies on both investment and the stock market. The most importance underlying Tobin's theory is that in a tax-less (havens) world, firms will invest for so long as each shilling spent purchasing capital raises the market value of the firm by more than one shilling. The assumption was that as a good approximation, the market value of an additional unit of capital equals the average market value of the existing capital stock. This assumption meant that the value of the marginal  $q$  on an additional dollar of investment was well approximated by the average  $q$ , which was the ratio of the market value capital stock to its replacement cost. The rate of investment is, therefore, an increasing function of the marginal return to investment as approximated by  $q$ .



In equilibrium, the Tobin's model posits that firms equate their net marginal product of capital with the cost of capital. A change in the corporate tax rate affects the steady-state of capital stock but does not affect the steady-state of  $q$  because the change does not influence the cost to the firm of acquiring new capital goods. As capital is accumulated, the marginal product of capital falls and the system converges to where  $q$  is equal to its equilibrium value. The model assumes that investors have perfect foresight and take account of the capital losses that occur as capital is accumulated. It alternatively assumes that the investors have myopic expectations and fail to foresee the effects of capital accumulation.

This theory is important to this study since it explains the behaviour of investors when corporate tax is lowered or raised. When tax rates are reduced, the Tobin's  $q$  initially rises prompting more investment, but after some time the marginal productivity of capital falls back to the level where  $q$  is in equilibrium at the point where they become indifferent between installing an extra unit of capital and paying out its cost in the form of higher dividends (Salinger and Summers, 1983).

### **2.2.3 Accelerator Theory of Investment**

The accelerator theory was developed by Carver (1904) and Aftalion (1927). Though this theory was conceived before Keynesian economics, it emerged just as the Keynesian theory became dominant in the twentieth century. This is an economic theory that suggests that as demand or income increases in an economy, the investments made by firms also increase. This theory also suggests that when demand levels result in an excess

in demand, firms meet the demand by raising the prices to cause demand to drop or increase investment to match demand. The accelerator theory suggests that most companies choose to increase production thus increase their profits.

This theory is relevant to this study since the accelerator theory is interpreted to create economic policies. The theory posits that it would be better to use tax cuts to create more disposable income for companies who would then demand more investment products.

#### **2.2.4 Pecking Order Theory**

Pecking order theory was first suggested by Donaldson in 1961. Cost of financing increases with asymmetric information (managers know more about their companies' prospects, risks and value than outside investors). Myers and Majluf (1984) gave this theory popularity. They argued that equity is a less preferred means to raise capital because when managers issue equity, investors believe that managers think that the firm is over-valued hence taking advantage of over-valuation. Consequently, investors places a lower value to the new equity issuance.

Pecking order theory implies that firms fund projects and activities in a specific order that considers cost of acquiring capital Welch,(2009).Financing comes from three sources, internal funds, debts and new equity (Brealy, Myres and Marcus, 2007). The theory advocates for an order in the choice of finance due to different degrees of asymmetry and agency costs in various sources of finance. Retained earnings are considered first in the financing pecking order for they are cheap and less affected by

asymmetry of information. Debt is considered next as it carries less asymmetry and serves as a control against waste of free cash flow on perquisites and bad investment by the management. External equity is used as a last resort because of adverse selection effect. The form of debt a firm chooses can act as a signal of its need for external finance. The implication of pecking order approach is that firms do not have a target level of leverage and their actual level of debt responds to the difference between investment and retained earnings (Benito, 2003).

The theory is important to the study since it allows the dynamics of the firm to dictate an optimal capital structure for a given firm at any particular time. A firm's capital structure is a function of its cash flows and amount of positive NPV investment availability (Copeland and Weston, 1998). The impacts of taxes, financial distress and agency costs are better understood as managers make capital structure decisions.

### **2.2.5 Static Trade-Off Theory**

This theory was put across by Stewart Myres who argued that managers seek to trade off the tax savings on debt against the cost of debt. Tax represents an opportunity, through the tax shield benefit, that is counter balanced by the increasing return required to compensate for default risk. The two effects, i.e. tax shield and risk creates a trade-off, a point where cost of capital is optimized (Ryan, 2007). The firm borrows up to the point where the tax benefit from investment exactly equals the cost or risk that comes from the increased profitability. This theory assumes that the firm is fixed in terms of its assets and operations and considers only possible change in debt equity ratio.

The important purpose of trade off theory is to explain the optimal capital structure in terms of balancing act between the benefits of debt and disadvantage of debt. This also points at the reason why firms are partly financed by debt and partly by equity. Modigliani and Miller corrected their initial work in 1963 after the realization of the advantage of financing with debt due to a large tax merit on the same. The tax adjusted MM theory results to a conclusion that firms should use only debt to maximize value of the firm. The optimal capital structure exists when the marginal cost of debt is equal to the marginal benefit of debt. If an unleveled firm commences adjusting its capital structure to small level of leverage, it will result to a high benefit from interest tax shield without any increase in distress cost. Further increase of leverage will result to considerable benefit but not as high as before, the cost of financial distress will increase. Additional leverage will increase the cost of financial distress and would exceed the tax shield benefit. The firm value line with regard to debt holds a lump shape curve (Hillier et al.2010).

According to Jensen and Meckling (1976) cost in this theory is represented by the agency cost arising from owners of equity and creditors and the cost of financial distress. Merit is measured by the tax shield of debt (Myres, 1984). Another benefit of debt is that it mitigates the manager – shareholder agency conflict. Ryan (2007) narrated that management should use debt to the extent that shareholders wealth is maximized and in overall the agency cost reduces the tax advantage of debt.

### **2.2.6 Agency Theory**

Agency theory addresses the diverging interest which arise from separation of ownership and control of a firm. The objective of any firm is to maximize the owners' wealth. The major assumption of this theory is that the separation of ownership and control creates conflicts among the principals (owners of the firm) and the agents (the managers). Agents may have other objectives other than the maximization of the owners' wealth. According to (Jensen, 1986), the conflict arises when agents' goal is not aligned to the owners' goal. The main concern of agency theory as proposed by (Jensen and Meckling, 1976) is how to write contracts in which an agent's performance can be measured and incentivized so that they act with the principal's interests in mind. Agents are always looking for prerequisites and getting hands on assets and free cash flows. They have incentives to decrease the firm value unless the free cash flow distributes between all the stakeholders. Amongst the solutions to this conflict is to use more debt in the capital structure. In their efforts to avoid default risk, agents' interests could be more aligned to principle's interests.

This theory is important to the study for the impact of separation of firm's decision making from owners to managers are addressed. Managers may persue their own goals which are in conflict with the management and the goal of shareholders wealth maximization will be hardly achieved. This explains why firms incur agency costs like the audit fee to the auditors for the shareholders belief that the management goals are in congruence with the shareholders from the opinion expressed.

## **2.3 Determinants of Corporate Investments**

Investment level is determined by quantitative, institutional and macroeconomic factors.

### **2.3.1 Quantitative Factors**

Quantitative factors include rate of interest on borrowed funds, and size of the firm, liquidity of the firm and expected return on proposed investment. A rise in the rate of interest discourages the investment activity while a reduction in interest stimulates more investment. The importance of profit as a determinant of investment is a widely accepted and confirmed driver of investment (Keynes, 1936).

### **2.3.2 Institutional Factors**

Institutional factors also affect investment. Institutions enable economic exchanges, efficient resource allocation and result in efficient economic activities. Constraints put in place by institutions enhance the level of investment freedom. Investment tends to grow faster when people are free from fear of expropriation and troubles (North, 1991). Investment is also affected by transitional factors such as liberalizing markets and prices, privatizing state-owned firms, restructuring firms towards market incentives and building economic and social institutions and infrastructures that promote growth. When markets and prices are liberalized, investors get higher motivation to invest and do business since they enjoy the freedom to set prices, to sell and to buy. Privatization of state indicates commitment to private ownership and offers profitable investment opportunities (Holland and Pain, 1998).

### **2.3.3 Macroeconomic Factors**

Macroeconomic and financial factors are also key drivers of investment. These macroeconomic policies include domestic saving, growth, trade policy, inflation and government consumption expenditure. The financial system of an economy channels funds from savers to investor and the depth of financial development is a strong determinant of investment in an economy (Loayza, Klaus, and Serven, 2000).

### **2.4 Review of Empirical Studies**

Aivazian et al, (2005) carried out a study on the impact of leverage on firm investment decisions using Canadian publicly traded companies information. The study revealed there is a negative relationship between leverage and investment which is stronger for firms with low growth opportunities than those with high growth opportunities. The results provide a support to agency theories of corporate leverage, especially the theory that leverage has a disciplining role for firms with low growth opportunities. Two alternative measures of leverage was used. Book value of total liabilities was divided by book value of the total assets in the first proxy. In the second proxy, book value of long term debts was divided by total assets. In this study a sample of 1,035 major Canadian industrial companies existing at the end of 1999 covering period 1982 – 1999 was selected.

Nguni (2007) conducted a research on relationship between gearing and profitability of firms listed at NSE over six year period 2000 – 2006. The study concluded that there is negative relationship between gearing and profitability ratios. The sample included 36

companies selected from a population of 54 companies listed at NSE. Secondary data was collected from audited annual financial statements of target firms. Simple regression was done at the market level with the nature and strength of the relationship determined by correlation of coefficient and the coefficient of determinant.

Tempel (2011) carried out the study on the relationship between leverage and investment using information from Danish listed companies. The study concluded that debt is related to investment with its direction and magnitude depending on sector and year. Overinvestment problems were found for the Industrial and Materials sector for the year 2007 when long term debt is the leverage proxy. Interest – bearing debt seemed to restrict overinvestment for the health care sector and the Industry and Material sector for the years 2008, 2009 and 2010. Underinvestment problems were found in all sectors and all years when interest- bearing debt is the leverage proxy. Managerial share ownership does not influence the overinvestment problem. Managerial and institutional share ownership seem to reduce the underinvestment problem when ownership stakes are sufficiently large. The magnitude of the overinvestment and underinvestment problem were not severe, nor do they differ in magnitude.

The sample of the study included 68 Danish listed companies with 312 year – based observation. The research method used was a mixed method research through a combination of quantitative and qualitative research. Data for quantitative research was collected from the annual reports. Data for the qualitative research was collected using semi-structured interviews with four managers of Danish Listed companies. Quantitative



analysis was performed in the form of correlation analysis and a regression analysis to indicate whether and to what extent leverage and investment are related and whether the relationship can be explained by agency problems. The influence of share ownership on the relationship is examined using correlation and regression analysis. Residual analysis is performed to analyze the magnitude of overinvestment and underinvestment and to analyze to what extent results found using correlation and regression analysis hold. Qualitative analysis is performed to analyze whether the vision of managers on investment expenditure coincide with results found in the quantitative analyses.

Haque (2011) undertook the study to analyze the impact of financial leverage on corporate investment by Pakistan firms. The results concluded that leverage is significantly and negatively affecting corporate investment which reiterates that increased leverage provides a disciplining role for managers and restricts them from overinvestment in context of Pakistan firms. The sample consisted of panel data of 400 non-financial firms listed on Karachi stock exchange belonging to different sectors. The period analyzed was 14 years ranging from 1998 to 2011. Fixed effect model was applied on panel data to examine the effect leverage on investment.

Raza, Ali and Abassi (2012) investigated the effect of corporate income tax and firms' size on capital investment in tangible assets by manufacturing firms belonging to the nine non-financial sectors listed on the Karachi Stock Exchange. Panel financial Data on annual basis was used for the six years focusing on a sample of 65 manufacturing companies. A multiple regression analysis was used. The results indicated that there was

a negative relationship between corporate income tax and investment while firm size and investment had a positive relationship with each other.

Frimpong and Marbuah (2010) carried out another study of the Ghanaian investment situation using time series econometric techniques within ARDL framework. The implicit factors influencing private investment were public investment, inflation, real interest rate, openness, real exchange rate and the constitutional rule. In the long-run output and external debt would be the additional factors of importance while public investment was not much significant. Of all the significant factors only effects of external debt and openness happened to be negative going by the results of the study.

Maina and Ishmail (2014) undertook a research to establish the effect of capital structure and financial performance of firms listed at NSE. The result revealed that debt and equity are the critical determinants of financial performance. There was evidence of a significant negative relationship between capital structure and all measures of performance. This implies that the more debt the firm uses as source of finance, they experienced low performance. The study also concluded that firms listed at NSE used more short-term debts than long-term. The population used to inform the study was firms quoted at NSE from 2002-2011.

Jiming et al (2010) conducted a study to examine the impact of debt financing on firm investment decision in Chinese real estate listed companies. The study concluded that there a negative relation between debt financing and investment in both firms with low

and high growth opportunities. That there is a positive relation between debt financing and investment for state owned holding companies. State owned firms enjoy government protection hence it is not difficult to finance projects through debt finance. The research covered 60 real estate listed companies and used the data from 2006-2008. Multiple linear regression model was used to analyze the data.

Opanga (2011) conducted a research to establish the relationship between capital structure and value of the firm for firms listed at the NSE for the period 2005-2010. The study revealed that the value of the firm is highly correlated with Dividend per share (DPS) while the value of the firm as measured by share price was inversely related to sales growth. The study used debt/equity ratio as proxy for capital structure and selected financial ratios to represent the attributes of the firm's value in establishing the relationship. Variable used were profit ratio, dividend pay-out ratio, growth rate, liquidity, assets operating efficiency and business risk. Secondary data collected from published financial statements from NSE were utilized. Correlation analysis to describe the degree to which variables were related was used.

Njire (2014) undertook the study on relationship between financial leverage and corporate investment on non-commercial firms listed at NSE. The study, using linear regression analysis concluded that financial leverage has a significant positive effect on firm value. Net sales, return on investment, liquidity of a firm affect the firm's investment decision. The study also concluded that overinvestment is expected to occur when growth opportunities are low as in there might be lack of positive NPV projects.

The management might want to increase (free) cash flows to conduct activities that are in their best interest while the interest of the firm is ignored.

## **2.5 Chapter Summary**

From the previous discussions, little has been done in the relationship between leverage and corporate investment in emerging markets. The use of debt capital has been shunned by many firms due to risk associated with debt. Debt also increases the agency costs between shareholders and the lenders. It should also be noted that various researches on the same area resulted in different observations, some being positive relationship while others give negative relationship. There is need to explore the relationship between the two variables in Kenyan non-financial firms listed at the NSE. Due to the influence of stringent regulation of the financial firms by the relevant authorities, the analysis of the same has been excluded.

## **CHAPTER THREE: RESEARCH METHODOLOGY**

### **3.1 Introduction**

This chapter discusses the research design, the population, population sample, data collection, and data analysis.

### **3.2 Research Design**

This study adopted a descriptive approach. According to Cooper and Schindler (2004) descriptive studies are more formalized and typically structured with clearly stated hypotheses or investigative questions. It serves a variety of research objective such as descriptions of phenomenon or characteristics associated with a subject population, estimates of proportions of a population that have these characteristics and discovery of associations among different variables. This study adopted a descriptive design since it has a variety of research objective or characteristics associated with a subject population.

### **3.3 Population**

The population of this study comprised of the non-financial firms listed at the Nairobi Securities Exchange. According to the NSE, as at 2015, there are 62 listed firms under different categories. Financial firms are 17; Banking 11 and Insurance 6. There remains 45 firms which formed the population. The companies in the financial sector were excluded from the study to remove any anomalies associated with this sector which is highly regulated by the central bank prudential on issues of liquidity, asset and capital holding, provision for bad debts among other factors (Santos, 2001). According to

(Mwangi, Anyango and Ameyya, 2006) financial leverage on financial companies is not comparable to those of non-financial companies. Cash is the trading asset of banks and therefore the holding of the same is significantly higher than for firms in other sectors.

### **3.4 Population Sample**

According to Orodho (2002), sample is selecting a given number of subjects from defined population as representative of that population. Any statement made about the sample should be true of the population. Mugenda and Mugenda (2003) states that a sample of 30% is considered representative for a population less than 500. The sample size is justified by 30% since it allowed minimized duplicity and redundancy of the data obtained and the size was large enough to ensure collection of comprehensive data.

However, the study adopted a census approach by considering all the financial officers in the non-financial firms listed at NSE. No specific sample size and sampling design was applicable, the finance department of the same firms is a functional area and the officers have adequate understanding of the financial leverage and corporate investment.

### **3.5 Data Collection**

The study used the secondary data obtained from CMA, NSE library and even the data from the firm's financial statements and annual reports which are publicly available. This was for a six year period, from 2009 to 2014.

### 3.6 Data Analysis

The research used quantitative techniques in data analysis. After receiving the data from the NSE, it was subjected to analysis using Statistical Package for Social Science (SPSS) version 21.0. Tables and charts were used for presentation for ease of understanding.

Reliability of the measures was assessed with the use of Cronbach's alpha. It allows one to measure the reliability of the different categories. It consists of estimates of how much variation in scores of different variables is attributable to chance or random errors (Selltm, et al, 1976). As a general rule, a coefficient greater than or equal to 0.5 is considered acceptable and a good indication of construct reliability (Nunnaly, 1978).

The multiple regression equation was used to determine the level of influence the independent variable have on dependent variable as below.

$$Y = 0 + 1x_1 + 2x_2 + 3x_3 + 4x_4 + 5x_5 + 6x_6 + a_i, t$$

Where:

Y = represent the net investment of a firm during the period, (net investment/total fixed asset)

0 = Constant Value

X1 = Cash flow (cash flow/total fixed asset)

X2 = Leverage (total liabilities/book value of total assets)

X3 = Profitability (EBIT/total fixed asset)

X4 = Liquidity

X5 = Firm size, Natural logarithm of firm sales

X6 = Growth, (Change in total assets between two consecutive years)

While  $\beta_0$  is the regression coefficient,  $\beta_1$ ,  $\beta_2$ ,  $\beta_3$ ,  $\beta_4$ ,  $\beta_5$  and  $\beta_6$  are the slopes of the regression equation and  $\epsilon_i$  is an error term normally distributed about a mean of 0 and for purposes of computation, it's assumed to be 0.

The F test was used to determine the significance of the regression while the coefficient of determination,  $R^2$  was used to determine how much variation in Y is explained by X. This was done at 95% confidence level and correlation analysis was carried out to find the direction of the relationship between corporate investment (dependent variable) and the independent variables.



## **CHAPTER FOUR**

### **DATA ANALYSIS, RESULTS AND DISCUSSION**

#### **4.1 Introduction**

This chapter presents the findings of the study based on the data collected, to determine the effect of financial leverage on corporate investment of non-financial firms listed at the NSE. In this study, both descriptive and inferential statistics were used to analyze the data. After secondary data collection, it was edited, classified, coded and tabulated. Presentation of the results is in table and figure form where appropriate.

#### **4.2 Response Rate**

Out of the census of forty five (45) firms targeted, data collected was from thirty seven (37) firms, thus a response rate of 82.2%.

#### **4.3 Reliability and Validity Test Results**

The reliability and validity statistical results are as presented in table 4.1 measuring the reliability and validity of the data used in the study. Validity indicates the degree to which the instrument measures the constructs under investigation (Mugenda and Mugenda, 1999). It indicates the extent to which a set of test items can be treated as measuring a single latent variable (Cronbach, 1951).

**Table 4.1 Reliability Statistics**

Cronbach's Alpha <sup>a</sup>	N of Items
.996	7

The table shows that, the Cronbach's Alpha coefficient for the data was 0.996. This reveals a statistically significant reliable results measuring against the 0.7 coefficient above which the results are taken to be valid. Thus, the data was valid and reliable to be used in the study.

#### **4.4 Descriptive Results**

This section gives the means and standard deviation of the values of the variables of the study. For the seven variables under review, average values across the years studied was computed that acted as a summary of the data values for the entire period studied. Results for the summary values are presented in table 4.2 below;

**Table 4.2 Descriptive Statistics of the Study Variables**

	Mean	Std. Deviation
Net Investment	.0751972727	.07731776063
Cash flow	.0637129545	.06514934577
Leverage	.1663815909	.16674368942
Profitability	.0711150000	.07366392022
Liquidity	1.8755679545	2.05706964349
Firm size	12.7516725000	5.91456595947
Growth	.1475761364	.16469750335

According to the study results in table 4.2, the average net investment value for all the firms studied was summarized as 0.0752 with a standard deviation of 0.0773. The cash flow

value had an average of 0.064 and a standard deviation of 0.065. From the table also, the average leverage value for the companies studied was 0.166 with a standard deviation of 0.167 whereas the average profitability of these companies was summarized as 0.0711 and a standard deviation of 0.0737. On average, liquidity of the companies was 1.876 with a standard deviation of 2.057. Firm size as well had an average of 12.752 and a standard deviation of 5.915 whereas the firms' growth was summarized as 0.148 and a standard deviation of 0.164.

#### **4.5 Inferential Results**

Inferential statistical methods of correlation test of association and regression analysis were also conducted to test the relationship between the study variables. The level of significance was tested at the 5% level setting the critical value at 0.025 with a 2-tailed test. This shows that, a significance value above the critical value of 0.025 indicated a no significance state in the results whereas values less than the critical value indicated statistically significant results.

##### **4.5.1 Correlation Results**

For the study to understand the association between the dependent and independent variables, correlation analysis was conducted at the 5% level. The Pearson correlation was used to examine the association in this study. This therefore determined the strength of the association based on the Pearson correlation scale. The results are then as presented in table 4.3;

**Table 4.3 Correlation Test Results**

		Net Investment	Cash flow	Leverage	Profitability	Liquidity	Firm size	Growth
Net Investment	Pearson Correlation	1	.614**	.634*	.706**	.632*	.580*	.643*
	Sig. (2-tailed)		.005	.027	.006	.014	.011	.023
Cash flow	Pearson Correlation	.614**	1	-.044	.953**	.358*	.380*	.141
	Sig. (2-tailed)	.005		.775	.000	.017	.011	.362
Leverage	Pearson Correlation	.634*	-.044	1	-.125	.106	.446**	.198
	Sig. (2-tailed)	.027	.775		.417	.492	.002	.197
Profitability	Pearson Correlation	.706**	.953**	-.125	1	.325*	.366*	.118
	Sig. (2-tailed)	.006	.000	.417		.031	.015	.446
Liquidity	Pearson Correlation	.632*	.358*	.106	.325*	1	.245	.373*
	Sig. (2-tailed)	.014	.017	.492	.031		.109	.013
Firm size	Pearson Correlation	.580*	.380*	.446**	.366*	.245	1	.390**
	Sig. (2-tailed)	.011	.011	.002	.015	.109		.009
Growth	Pearson Correlation	.643*	.141	.198	.118	.373*	.390**	1
	Sig. (2-tailed)	.023	.362	.197	.446	.013	.009	

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

\* . Correlation is significant at the 0.05 level (2-tailed).

The correlation results in table 4.3 give the associations between the study variables. As shown by the p-values, testing at 5% level with a 2-tailed test, all the associations are statistically significant as the p-values are all less than 0.025 the critical value at the 5% level. From the table, cash flow and the net investment indicated a positive association of 0.614 with a p-value of 0.005. Leverage and net investments however indicated a positive correlation coefficient of 0.634 with a p-value of 0.027 whereas profitability had a 0.706

correlation coefficient with net investments with a p-value of 0.006. As well, liquidity indicated a correlation coefficient of 0.632 with a significant value of 0.014. Firm size had a correlation of 0.580 with a significance of 0.011 while the firms' growth indicated a significant correlation of 0.643 with a p-value of 0.023.

#### 4.5.2 Regression Analysis

**Table 4.4 Regression Model Summary**

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.820 <sup>a</sup>	.784	.684	.06540438144

a. Predictors: (Constant), Growth, Profitability, Leverage, Liquidity, Firm size, Cash flow

Results in table 4.4 indicates that, the predictor variables (Cash flow, Leverage, Profitability, liquidity, Firm size, Growth) explain 78.4% of the variation in the net investment as represented by the R Square (0.784). This therefore reveals that other factors not studied in this research contribute 21.6% of the variability in the net investment. Further research should be conducted to determine the effect of financial leverage on corporate investment of non – financial firms listed at the NSE.

**Table 4.5 Analysis of Variance**

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	.099	6	.016	3.849	.004 <sup>b</sup>
1	Residual	.158	37	.004		
	Total	.257	43			

a. Dependent Variable: Net Investment

b. Predictors: (Constant), Growth, Profitability, Leverage, Liquidity, Firm size, Cash flow

From table 4.5, the significance value in testing the reliability of the model was obtained as 0.004 which is less than 0.025 the critical value at 5% level in a 2-tailed test. Therefore the model is statistically significant in predicting the net investment of the selected firms. The F critical value at 5% level of significance is 3.23. From the table, the F calculated is 3.849 which is greater than the F critical. This shows that the overall model was statistically significant and reliable in explaining the influence of the predictor variables to the net investment.

**Table 4.6 Regression Coefficients**

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error			
(Constant)	.008	.024		.323	.000
Cash flow	.010	.526	.008	.018	.006
Leverage	-.172	.073	-.371	-1.348	.024
Profitability	.517	.473	.492	1.093	.021
Liquidity	-.006	.006	-.163	-1.102	.017
Firm size	.011	.002	.034	.196	.024
Growth	.134	.070	.286	1.926	.002

a. Dependent Variable: Net Investment

The coefficients in table 4.6 answer the regression equation relating the dependent and the independent variables. Testing the significance of the coefficients at 95% significance level with a 2-tailed test, the table indicates that all the variables had a significance value less than 0.025 thus confirming the significance of the results. The coefficients also indicated a positive relationship between the variables studied.

Based on the results, the regression model therefore becomes;

$$Y = 0.008 + 0.010X_1 - 0.172X_2 + 0.517X_3 - 0.006X_4 + 0.011X_5 + 0.134X_6$$

The model shows that, holding the predictor variable constant at zero, the predictor value of the net investment for the firms would be 0.008. A unit increase in cash flow (X1) would result to 1 percent increase in net investment for the firms and a unit increase in leverage (X2) would also lead to 17.2 percent decrease in net investment. From the model also, given a unit increase in the firms' profitability (X3) would result to 51.7 percent increases in net investment of the listed firms.

The model further reveals that, given a unit increase in liquidity (X4), the firms' net investment would experience 0.6 percent decrease whereas a unit increase in firm size (X5) would result to 1.1 percent growth in the firms' net investment. The firms' growth (X6) as well indicated a positive relationship where a unit increase in the firms' growth would result to 13.4 percent increase in net investment of the firms.

#### **4.6 Interpretation of the Findings**

The study conducted a correlation analysis to test the association between leverage and corporate investment of the non-financial listed firms at the NSE. Findings revealed a significant positive correlation between leverage and corporate investment. The study findings are in line with those by Mwangi (2010). His study on capital structure on firms listed at the Nairobi Stock Exchange that established a strong relationship between cost of capital and financial performance, hereby represented by investment decision. There was a strong positive relationship between leverage and level of investment. However, other researcher has over time found mixed results regarding the impact of capital structure on firm's performance.

Results as well revealed an overall positive and significant relationship between leverage and corporate investment in non-financial firms listed at the NSE. It established that the cash flow, Leverage, Profitability, liquidity, Firm size, Growth explain 78.4% of the variation in the corporate investment. Thus, the influence of other factors that were not considered in this study contributes to 21.6% of the variability in corporate investment in the non-financial firms listed at the NSE.

The relationship was found to be statistically significant where most of the factors studied apart from the leverage and liquidity had a positive influence on corporate investment. Findings showed that a unit increase in the firms' cash flow would result to 1 percent increase in net investment for the firms whereas a unit increase in leverage would contribute to 17.2 percent decrease in net investment. Findings also revealed that, given a



unit increase in the firms' profitability would result to 51.7 percent increases in net investment of the listed firms.

The model developed further revealed that, given a unit change in leverage, the firms' net investment would experience 0.6 percent decrease whereas a unit growth in firm size would result to 1.1 percent growth in the firms' net investment. The firms' growth as well indicated a positive relationship where a unit increase in the firms' growth would result to 13.4 percent increase in net investment of the firms.

The findings were as well in line with the findings of the study done by Haque (2011) which illustrated that leverage is significantly and negatively related to the corporate investment which reiterates that increased leverage provides a disciplining role for managers and restricts them from overinvestment in context of Pakistan firms.

## **CHAPTER FIVE: SUMMARY, CONCLUSION AND RECOMMENDATION**

### **5.1 Introduction**

The chapter presents the summary of the findings, conclusion and recommendations. The aim of the study was to determine the effect of financial leverage on corporate investment of non-financial firms listed at the NSE.

### **5.2 Summary of Findings**

The study was carried out to investigate the effect of financial leverage on corporate investment of non-financial firms listed at the Nairobi securities exchange. The study variables were net investment measuring the dependent variable whereas the independent variables included the cash flow, leverage, profitability, non-debt tax, firm size and the firms' growth. The relationship between the variables was estimated at the 5% level of significance through correlation and regression analysis techniques.

The study findings on conducting the correlation test of the associations between the study variables revealed that financial leverage and corporate investment in non-financial listed firms have a negative correlation. The association was found to be statistically significant as all the variables indicated a p-value less than 0.025 the critical value at the 5% level.

Testing the relationship between the variables, the study findings indicated that the non-financial firms' Cash flow, Leverage, Profitability, liquidity, Firm size and Growth explain 78.4% of the changes in net investment as given by the R Square (0.784). The F-statistics revealed a significant relationship and reliability of the model in presenting the relationship between the study variables.

The study findings as well illustrated that there is a negative relationship between financial leverage and corporate investment of non-financial firms listed at the Nairobi securities exchange. Leverage and liquidity factors indicated negative coefficients whereas the regression coefficients for the other variables were all obtained to be positive depicting a positive relationship. This was also tested to be statistically significant at the 5% level since the p-values for all the coefficients were less than 0.025. From the model developed, the study revealed that, a unit increase in the non-financial firms' cash flow would result to 1 percent increase in net investment for the firms and a unit increase in leverage would also lead to 17.2 percent decrease in net investment. Further the study results revealed that given a unit increase in the firms' profitability would result to 51.7 percent increases in net investment of the listed firms.

The model as well revealed that, given a unit increase in liquidity, the firms' net investment would experience 0.6 percent decrease whereas a unit growth in firm size would result to 1.1 percent increase in the firms' net investment. The firms' growth as well indicated a positive relationship where a unit increase in the firms' growth would result to 13.4 percent increase in net investment of the firms.

### **5.3 Conclusion**

Based on the study results and discussions, the study gave evidence of the relation between financial leverage and corporate investment of non-financial firms listed at the Nairobi securities exchange. This study established that there is a negative relationship between leverage and corporate investment of the non-financial firms listed at the NSE. Also, a negative relationship exist between leverage and corporate investment of non-financial firms.

However, other variables measuring corporate investment in the study revealed a positive and significant relationship with the firms' corporate investment. Therefore, firms' decision on corporate investments is directly related to the Cash flow, Profitability, Firm size and Growth whereas an inverse relationship exists with the leverage as well with liquidity.

### **5.4 Recommendations to Policy and Practice**

The study findings and conclusions made in this study leads to the policy recommendations that; there is need for the management of the non-financial companies listed at the NSE to set optimal leverage. The management of these companies should also identify factors that could have strong effect on company's investment ability and only concentrate on those that could lead to higher performance.

As indicated, in any business, investors generally invest in shares of a company in anticipation of returns. Investor decision to invest in a portfolio is to maximize portfolio expected return for a given amount of portfolio risk. It is recommended that investors be guided by the findings of this study to enable them chose their portfolio for investments purposes. This would facilitate more investments in the non-financial firms due to the availed source of investment portfolio.

Firms should also put into consideration the factors affecting their corporate performance in making decision on investment. Thus, the firms' cash flow projection, Leverage, Profitability, liquidity, Firm size and growth strategies should be used as means to determine the investment to be done and the expected performance of the firm resulting from the so investments done.

### **5.5 Limitations of the Study**

The study relied on secondary data which was collected from Annual audited financial statements of the sampled non-financial companies, NSE database and CMA library. In as much as there are general guiding principles for the preparations and reporting of the financial statements which are Generally Accepted Accounting Principles and International Financial Reporting Standard, these companies being in various types of activities use different accounting policies and therefore reliability and quality of the data would be questionable.

The research population included companies from all sectors of the economies and hence different operating environment. The study could be undertaken among companies operating in the same sector of the economy. Time was a constraints during the study period. This is due to the fact that alongside the work assignments, allocation had to be made in order to meet the study timelines which means that extra working time was needed for the accomplishment of the daily duties.

### **5.6 Suggestion for further Research**

The study was carried out to determine the effect of financial leverage on corporate investment of non-financial firms listed at the NSE. Similar study should be carried out on companies identified with segments as categorized by NSE to test for the difference in the reaction of different sectors' on leverage.

The study revealed a negative relationship between liquidity and investment. Empirical work on liquidity should exploit naturally occurring heterogeneity across these dimensions as a way to identify causes and consequences of firm's liquidity policies.

Other non-quantifiable variables should be incorporated in the study. Corporate governance, management incentive policies and firm's core values could contribute to enhanced firm's performance as in their contribution to prudential policy of handling organization assets could be of importance.

Extension to none listed firms and for longer periods should be carried out as in this may help in elimination of any biasness that may be associated with listed firms due to the regulations by CMA.

## REFERENCES

- Abor, J. (2005). The effect of capital structure on profitability: Empirical analysis of listed firms in Ghana, *Journal of Risk Finance*, 6(5), 438-445.
- Abor, J. (2006). Debt policy and performance of SMEs: Evidence from Ghanaian and South African firms, *Journal of Risk Finance*, 8(4), 364-380.
- Aivazian, V.A., Ge, Y., & Qui, J. (2005). The impact of leverage on firm investment: Canadian evidence, *Journal of Corporate Finance*, 11, 277-291
- Baber, W. R., Daniel, P.L., Roberts, A. A. (2002). Compensation to Managers of Charitable Organizations: An Empirical Study of the Role of Accounting Measures of Program Activities. *The Accounting Review*, 77( 3), 679-693.
- Bancel, F., &Mittoo, U.R. (2004). The determinants of capital structure choice: A survey of European firms, *Financial Management*, 33(4), 103-132
- Bao, H. (2010). A study on leverage and firm investment: Chinese evidence. *Master of Science Thesis, Royal Institute of Technology*
- Barasa, J. W. (2012). Effect of financial leverage on stock returns: Evidence from Nairobi Securities Exchange. *Unpublished MBA Research project, University of Nairobi*
- Bauer, P. (2004). Determinants of capital structure: Empirical evidence from the Czech Republic. *Czech Journal of Economics and Finance*.
- Bertrand, M., Schoar, A., &Thermar, D. (2007). Banking deregulation and industry structure: Evidence from the French Banking Reforms of 1985, *Journal of Finance*, 62, 597-628



- Brounen, D., Jong, de A., & Koedijk, K. (2006). Capital structure policies in Europe: Survey evidence, *Journal of Banking and Finance*, 30(5), 1409-1442
- Campello, Murillo, John R. Graham, and Campbell R. Harvey, (2010). The real effects of financial constraints: Evidence from a financial crisis, *Journal of Financial Economics*, 97, 470-487
- Chebbi, E.K., Kipchumba, S. K., & Wasike, E. (2011). Relationship between Firms Capital Structure and Dividend Payout Ratio: Companies listed at Nairobi Stock Exchange, *Kabarak University first international conference 2011*
- Chittoo, H.B., & Odit, M.P. (2008). Does financial leverage influence investment decisions? The case of Mauritian firms, *Journal of Business Case Studies*, 4(9), 49-60
- Evelyn T. (2011) The influence of financial leverage on investment on Danish Listed Companies, *Unpublished MBA thesis, University of Twente*
- Fazzari, S.; Hubbard, R.G and Peterson, B. (1988) " Financing constraints and corporate investment", *Brookings papers on economic activity*, 141-195.
- Ferri, M. G., & Jones, W. H. (2009). Determinants of financial structure: A new methodological approach, *Journal of Finance*, 34(3), 631-644
- Gweyi, M.O., Minoo, E.M., & Luyali, N.C. (2013). Determinant of leverage of Savings and Credit Co-Operatives in Kenya: An empirical approach. *International Journal of Business and Commerce*, 2(10), 58-65
- Hillier, D., Jaffe, J., Jordan, B., Ross, S., & Westerfield, R. (2010). *Corporate Finance*, First European Edition, McGraw-Hill Education

- Holz, C.A. (2002). Leverage, Managerial Monitoring and firm valuation: A simulation equation approach, *Research in Economics*, 61, 84-98
- Jensen, M. (1986). Agency cost of free cash flow, corporate finance, and takeovers. *American Economic Review*, 76, 323-329.
- Jensen, M., &Meckling, W. (1976), “Theory of the Firm: Managerial Behaviour, Agency Costs and Ownership Structure”, *Journal of Financial Economics*, 3(4), 305-360
- Kibet, B., Kibet, L., Tenai, J., &Mutwol, M. (2011).The Determinants of leverage at the Nairobi Stock Exchange. The Asian Business and Management Conference 2011 Osaka, Japan
- Khaparde, D., &Bhute, A. (2014). Investors’ perception towards impact of macroeconomic performance on stock market behavior. *The international journal of management*, 3(1).
- Lang, L.E., Ofek, E., &Stulz, R., (2006). Leverage, investment and firm growth, *Journal of Financial Economics*, 40, 3-29
- Leary, M.T., & Roberts, M.R. (2005). Do firms rebalance their capital structures?,*The Journal of Finance*, 60(6), 2575-2619
- Magpayo, C, L. (2011). Effect of Working Capital Management and Financial Leverage on Financial Performance of Philippine Firms. College of Business, De La Salle University, 2401 Taft Avenue 1004 Manila.
- McConnel, J J., Servaes, H., 1995. Equity ownership and the two faces of debt. *Journal of Financial Economics* 40, 3-29.

- Maina, M., &Ishmail, M. (2014). Capital structure and financial performance in Kenya: Evidence from firms listed at the Nairobi Stock Exchange. *International Journal of Science and Entrepreneurship*, 1(11)
- Myers, S. C. (1984), 'The Capital Structure Puzzle', *Journal of Finance*, 34, 575-592
- Myers, S.C., &Majluf, N. S. (1984). Corporate financing and investment decisions when firms have information that investors do not have. *Journal of Financial Economics*, 13, 187-221.
- Nguni, J.N. (2007). An empirical investigation into the relationship between gearing and profitability of firms listed at the Nairobi Stock Exchange. *Unpublished MBA Research project, University of Nairobi*
- Njire S. K. (2014). The effect of financial leverage on corporate investment on non-financial firms listed at the Nairobi Securities Exchange. *Unpublished MBA Research project, University of Nairobi.*
- Opanga, W.O. (2011). The relationship between capital structure and value of firms listed at the NSE. *Unpublished MBA Research project, University of Nairobi*
- Orua, E.A. (2009). The relationship between capital structure and financial performance of Microfinance Institutions in Kenya. *Unpublished MBA Research project, University of Nairobi*
- Oruko, K.A. (2011). The relationship between financial leverage and stock returns of companies listed at the Nairobi Securities Exchange. *Unpublished MBA Research project, University of Nairobi*
- Prasad, S., Green,C., &Murunde, V. (2001). "Corporate financial structures in developing economies: Evidence from a comparative analysis of Thai and Malay

- corporations". *Working Paper Series*, Paper No 35. Finance and Development Research Programme, University of Manchester, Manchester
- Rajan, G., R. and Zingales, L. (1995). What do we know about capital structure: some evidence from international data, *Journal of Finance*, 32, 1421-1430
- Rayan, K. (2008). Financial leverage and firm value. Unpublished MBA Research project, University of Pretoria
- Rayan, Kuben. (2008). Financial Leverage and Firm Value. Gordon Institute of Business Science, University of Pretoria.
- Richardson, S. (2006). Over-investment of free cash flow, *Review of Accounting Studies*, 11(20), 159-189
- Ross, S. (1977). The determinant of financial structure: The incentive signaling approach, *Bell journal of economics*, 8, 23-40
- Salehi, Mahdi. (2009). Study of the Relationship Between Capital Structure Measures and Firm Performance: Evidence from Iran. *International Journal of Business and Management*, 4(1), January.
- Sapienza, P. (2004). The effect of investor sentiment, *NBER Working Paper No. W10563*.
- Siro, R.O. (2013). Effect of capital structure on financial performance of firms listed at the Nairobi Securities Exchange. *Unpublished MBA Research project, University of Nairobi*.

## **APPENDICES**

### **APPENDIX 1**

#### **Listed Companies on the Nairobi Stock Exchange**

##### **AGRICULTURAL**

1. Eaagads Ltd
2. Kapchorua Tea Co. Ltd
3. Kakuzi
4. Limuru Tea Co. Ltd
5. Rea Vipingo Plantations Ltd
6. Sasini Ltd
7. Williamson Tea Kenya Ltd

##### **COMMERCIAL AND SERVICES**

8. Express Ltd
9. Kenya Airways Ltd
10. Nation Media Group
11. Standard Group Ltd
12. TPS Eastern Africa (Serena)
13. Scangroup Ltd
14. Uchumi Supermarket Ltd
15. Hutchings Biemer Ltd
16. Longhorn Kenya Ltd
17. Atlas Development & Support Services

## TELECOMMUNICATION AND TECHNOLOGY

18. Safaricom Ltd

## AUTOMOBILES AND ACCESSORIES

19. Car and General (K) Ltd

20. Sameer Africa Ltd

21. Marshalls (E.A.) Ltd

## MANUFACTURING AND ALLIED

22. B.O.C Kenya Ltd

23. British American Tobacco Kenya Ltd

24. Carbacid Investments Ltd

25. East African Breweries Ltd

26. Mumias Sugar Co. Ltd

27. Unga Group Ltd

28. Eveready East Africa Ltd

29. Kenya Orchards Ltd

30. A. Baumann Co Ltd

31. Flame Tree Group Holdings Ltd

## CONSTRUCTION AND ALLIED

32. Athi River Mining

33. Bamburi Cement Ltd

34. Crown Berger Ltd

35. E.A.Cables Ltd

36. E.A.Portland Cement Ltd

## ENERGY AND PETROLEUM

37. KenolKobil Ltd
38. Total Kenya Ltd
39. KenGen Ltd
40. Kenya Power & Lighting Co Ltd
41. Umeme Limited

(Source: NSE, 2015)

## APPENDIX II: Independent Variables

	<b>FIRMS</b>	<b>CASH FLOW</b>	<b>LEVERAGE</b>	<b>PROFITABILITY</b>	<b>LIQUIDITY</b>	<b>FIRM SIZE</b>	<b>GROWTH</b>
1	Eaagads Ltd	0.04051	0.16907	0.04046	5.25955	11.50575	0.15166
2	Kapchorua Tea	0.06424	0.69813	0.06424	2.38167	13.95978	0.09477
3	Kakuzi	0.10487	0.16776	0.10487	5.00064	14.46151	0.03371
4	Limuru Tea	0.08321	0.20517	0.08312	10.99333	11.59476	0.63330
5	Rea Vipingo Plantations	0.13066	0.16679	0.14175	3.38333	14.26320	0.14476
6	Sasini Ltd	0.03722	0.21293	0.03724	2.17667	14.76001	0.12439
7	Express Limited	0.08359)	0.31187	(0.07889)	0.43333	12.94246	0.25246
8	Kenya Airways	0.01059)	0.11168	(0.01059)	0.79667	17.15158	0.15102
9	Nation Media Grop	0.22101	0.00755	0.26429	2.24742	9.32162	(0.58069)
10	Standard Grop Ltd	0.06484	0.21038	0.06484	1.19500	15.10383	0.22632
11	TPS East Africa (Serena) Ltd	0.03897	0.23741	0.03891	1.22000	15.49036	0.19652
12	Longhorn Kenya Ltd	0.09750	0.00956	0.14070	1.69818	13.66922	0.08405
13	Scangrop Ltd	0.08615	0.02734	0.11852	2.17412	16.07022	0.78119
14	Safaricom Ltd	0.14244	0.08051	0.13871	0.63155	18.43345	0.09711
15	Uchumi Supermarket Ltd	0.15782	0.06503	0.23537	0.80333	16.27771	0.19486
16	Car and General	0.10910	0.22143	0.10188	2.62786	15.45979	0.24085
17	Sameer Africa	0.04314	0.04657	0.15848	2.74397	15.12305	(0.01374)
18	Marshall EA	0.18247)	0.26668	(0.18206)	0.67388	12.76511	0.11948
19	Olympia Capital Holding	0.03914	0.15262	0.03944	1.64301	13.36281	0.15306
20	Centum Investment	0.11815	0.10874	0.11543	1.58356	14.60382	0.29601
21	Trans-Century	0.00052)	0.33701	(0.00778)	2.25136	16.04441	0.04788
22	B.O.C Kenya Ltd	0.08453	0.01975	0.09688	2.25123	13.74537	0.04908
23	British American Tobacco Kenya Ltd	0.22345	0.16954	0.23571	1.19005	17.11879	0.08523



24	Carbacid Investment Ltd	0.19645	0.10302	0.19410	7.65167	13.49180	0.16916
25	East African Breweries	0.19498	0.31132	0.18082	1.07513	17.68367	0.18233
26	Mumias Sugar Co. Ltd	0.38041)	0.22475	(0.38041)	1.34333	16.44405	0.13639
27	Unga Group Ltd	0.07579	0.10964	0.07229	2.11202	16.45592	0.08089
28	Eveready EA Ltd	0.07903)	0.16525	(0.02692)	1.36000	14.15799	(0.04287)
29	Athi River Mining	0.05712	0.46435	0.05297	0.96667	16.02078	0.37827
30	Bamburi Cement	0.13850	0.13248	0.14506	3.12790	16.17236	0.06341
31	Crown Paint Kenya Limited	0.04956	0.02717	0.05046	1.40992	15.20415	0.03366
32	EA Cables Ltd	0.06725	0.18365	0.06895	1.24639	14.84967	0.26638
33	EA Portland Cement Ltd	0.02296	0.41198	0.02304	1.37107	16.01852	0.12292
34	Kenokobil	0.02485	0.02402	0.02255	1.12621	18.66039	0.07250
35	Total Kenya	0.02516	0.07591	0.03473	1.24167	18.43544	0.47441
36	Ken Gen Ltd	0.01846	0.49826	0.01848	2.10830	16.48446	0.13980
37	Kenya Power & Lighting Co. Ltd	0.04534	0.58547	0.04477	1.02500	17.76578	0.21552