

**THE RELATIONSHIP BETWEEN FINANCIAL LEVERAGE AND ASSET
GROWTH OF FIRMS LISTED AT THE NAIROBI SECURITIES EXCHANGE**

BY

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D61/64949/2013

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

OCTOBER 2014

DECLARATION

This research project is my original work and has not been presented for an award of a degree in any other university or institution of higher learning.

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

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ACKNOWLEDGEMENTS

First and foremost, I would like to thank the Almighty God for providing me with the strength, good health and sound mind during my period of study. It has been exciting and instructive study period at the University of Nairobi and feel privileged to have had the opportunity to carry out this study as a demonstration of intellect gained during the period of study of my masters in business administration programme.

This research project would not have been completed without the intellectual advice, unwavering support and guidance of my supervisor and chairman of the department of Finance and Accounting Mr. Herick Ondigo throughout the period of the study. I further extend my appreciation to the staff of the Nairobi Securities Exchange for the assistance and support in acquisition of valuable information that made the study possible.

Finally, I thank my esteemed family and friends for their support and encouragement throughout my postgraduate studies. God bless you for your immeasurable support toward the accomplishment of this work.

DEDICATION

I dedicate this project work to The Almighty God, my esteemed family and my maternal grandfather who forever emphasized the value strong character.

ABSTRACT

The objective of the study was to establish the relationship between financial leverage and asset growth of firms listed at the Nairobi Securities Exchange for the period 2009 to 2013. The study examined the theories of capital structure, determinants of asset growth and reviewed empirical studies relevant to the study objective and is of value to investors and managers in achieving in-depth understanding on the relationship between financial leverage and the growth of firms listed at the NSE. The study adopted a descriptive research design which seeks to define the relationship between two or more variables. The population of the study consisted of sixty two firms listed at the Nairobi Securities Exchange out of which thirty six companies were sampled. The sample excluded twenty companies listed under the banks, insurance and investment segments because of the key fact that these companies are regulated and are required to adhere to certain minimum liquidity and leverage ratios. Another six companies were excluded from the study; two companies were newly listed and therefore were not continuously listed over the period of study while another four companies had missing information for some years required for the computation of the dependant and independent variables. Secondary data was used in the study and this was collected from the thirty six companies sampled. The sources of data included the Nairobi Securities Exchange database and Annual Audited Financial Statements of the sampled companies. This data was analyzed using Statistical Packages for Social Sciences (SPSS) version 22 and the results of the regression and correlation analysis indicated an R-squared value of 0.299 revealing that 29.9% of the variation in asset growth was explained by financial leverage, return on equity, size and age of the firm at 95% confidence interval. The regression analysis results further indicate a positive but insignificant relationship between financial leverage and asset growth of firms listed in the NSE. The financial leverage coefficient of +0.002 in the established regression model indicates the positive relationship between the two variables. The reported p-value of 0.998 is more than the critical value of 0.05 hence demonstrating the insignificance of the relationship between financial leverage and asset growth. These findings can possibly be explained by the indirect relationship between financial leverage and asset growth and as such there are other factors that have a direct relationship with asset growth of firms. The study made a policy recommendation that the management and investors of the firms listed in the NSE should further examine other variables such as Return on Equity and Size of the firm that notably have a more significant impact on a firms' asset growth and concentrate on the same to achieve higher asset growth rates and financial strength. The study further recommended that an optimum capital structure that will support company growth should be sought by managers of firms since excessive borrowing can lead to financial distress and bankruptcy and hence limit growth. The study also recommended that investors be guided by the findings of this study towards focusing on variables such as return on equity and size of the firm that have a more significant impact on capital gains and investment growth.

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LIST OF ABBREVIATIONS

AGR	Asset Growth Rate
CMA	Capital Markets Authority
DER	Debt Equity Ratio
DPS	Dividend Per Share
EAT	Earnings After Tax
EBIT	Earnings Before Interest and Taxes
EBITDA	Earnings Before Interest, Tax, Depreciation and Amortization
EBT	Earnings Before Tax
EPS	Earnings Per Share
GSE	Ghana Stock Exchange
MM	Modigliani and Miller
NI	Net Income
NSE	Nairobi Securities Exchange
NPV	Net Present Value
PI	Profitability Index
ROA	Return on Assets
ROE	Return on Equity
SPSS	Statistical Packages for Social Sciences
TDR	Total Debt Ratio

CHAPTER ONE

INTRODUCTION

1.1. Background of the Study

Corporate sector growth is critical to economic expansion. Capital is an important resource in the firm's financial decision making process along with the other resources in an effort to achieve the desired corporate growth levels. The capital can be basically classified as ownership or non-ownership capital in corporate financial aspect. These two usually represent equity and debt capital respectively. The combinations of equity and debt capital are known as financial leverage and is a dynamic position that varies across firms under different conditions such as, cost of capital, interest rates, capital market, manager's perception, organizational strategies, tax rate, firm size and growth (Zhao & Wijewardana, 2012). It is notable that capital structure is one of the key realms of interest in finance. Most of the decision-making processes related to the capital structure are deciding factors when determining the level of financial leverage.

A firm can finance its investments through debt or equity. A company may also use preference shares. The rate of interest on debt is fixed irrespective of the investment's rate of return on assets. The rate of preference dividend is also fixed. The firm has a legal binding to pay interest on debt. Equity investors are entitled to residual income, thus earnings after interest and taxes. In investments, leverage refers to the use of a relatively small investment or a small amount of debt investment to achieve higher profits. Financial leverage results from the use of fixed-charges sources of funds, such as debt in the capital structure and as such measures an investment's exposure to financial risk and results from the presence of fixed financial charges in the investment's income stream. These fixed charges do not vary with investment earnings before interest and taxes (EBIT) and they must be paid regardless of the amount of EBIT. Although financial leverage involves a certain amount of risk, it can bring about significant benefits with little investment when successfully implemented (Pandey, 2010).

An optimal capital structure can influence the value of the firm and wealth of equity investors through reduced cost of capital. Hence, determination of optimal debt level and its impact on the firm's overall capital structure is regarded as an integral part of an investment financial decision (Franklin & Muthusamy, 2011). Financial leverage, or an increase in financial

efficiency, called the variation of return on equity, depends on the return on assets and the cost of credit which is interest rate. Leverage of a firm is measured by leverage ratios, which indicate the mix of funds provided by investors and debt providers. These ratios are total debt ratio, debt to equity ratio and times interest earned ratio. For the purpose of the study, the researcher will use financial leverage as the parameter and Total debt to Assets Ratio as a measure of financial leverage. In a financially leveraged firm, the effective price of capital is reduced by the tax savings associated with debt financing at the time of investment. On the other hand, at the time of disinvestment, the firm has to pay back its debt, in line with the debt agreement and therefore has to give up the tax savings associated with the debt financing of that particular investment. Because the purchase price is greater than the resale price and both should be adjusted by the same value of tax savings, their ratio increases as a result of debt financing (Penman & Richardson, 2007).

Asset Growth has a number of advantages for the firm if acquired through external growth or sources of financing as it allows rapid expansion, immediate cash inflows, reduction of risk and economics of scale (Hampton, 1993). There are a number of key reasons for firms seeking consistent and sustainable growth. The most important one are diversification, stability, operating economics and profit from turnaround situations. Hence a firm's growth is definitely a key factor in increasing profits, decreasing risks and achieving stability. Hampton (1993) explained that internal growth is the firm's ability to increase sales, assets and as such expand its own operations. The internal funds for growth could be derived from retained earnings, depreciation, tax shields, and from other non-cash transactions. The outside funds are obtained from debt and equity or both. External sources of financing such as debt would be key in accelerating the growth of a company's asset base as it will allow the firm to leverage on its existing funds towards attaining asset growth targets.

Equity investors in a firm expect returns which are in form of dividends but most importantly of capital gains. These investors are focused on attaining investment growth, and as such would be keen on a capital structure that would enable attainment of desired growth of a firm's assets and revenues. Hence the relevance of financial leverage in the growth of the firm's assets, sales and profitability. Therefore by understanding the relationship between financial leverage and Asset Growth in firms, investors and finance managers are able to apply leverage levels to achieve the targeted asset growth in the firms and investments.

Incorporated in 1954, the NSE is the leading securities exchange in East and Central Africa. The products traded at the NSE are shares (equity) and bonds (debt instruments) which are financial instruments that are jointly referred to as securities. NSE facilitates investments and savings by bringing together borrowers and lenders. Currently, a total of 62 firms categorized into 11 sectors are listed (NSE, 2014). The NSE plays an important role in economic development in Kenya, by providing a medium for the transfer of funds from surplus spending units to deficit spending units. Debt and other securities are raised from this market and will be used to measure the leverage of a firm.

1.1.1 Financial Leverage

Financial leverage is a measure of how much a firm uses equity and debt to finance its assets. It reflects the debt amount used in the capital structure of the firm and therefore, has an impact on the firm's returns proportionate to the extent to which the firm's assets are financed with debt. The financial leverage is a prerequisite for achieving optimal capital structure. Other variables remaining constant, the lower the amount borrowed, the lower the interest, lower will be the profit, whereas the greater the amount borrowed, lower the interest, and the greater will be the profit. Debt carries a fixed service obligation of payments of interest (Totala, 2012). As debt increases, financial leverage increases. However, firms tend to prefer equity financing over debt since it carries less financial risk. Financial leverage provides the potentials of increasing the shareholders' wealth as well as increasing the risks of loss to them (Mbairi, 2012).

The financial leverage employed by a firm is intended to earn and retain more on the fixed charges funds than their relative costs (Pandey, 2007). A firm has no future if it does not achieve consistent and sustained growth of its assets and returns. Finance Managers continuously evaluate the efficiency of investments in terms of profits and asset growth. Profitability is calculated using profitability ratios such as Return on Assets (ROA) and Return on Equity (ROE). Asset growth can be obtained through in-depth examination of the financial statements to establish margin growth rates (Pandey, 2010).

The broadest definition of measures of financial leverage is the ratio of total liabilities to total assets. This measure can be indicated as a proxy for what is left for shareholders in case of liquidation (Bredly, Jarrell & Kim, 1984). Another more appropriate measure of financial leverage is calculated by ratio of debt to total assets, debt that includes short term and long-

term debts. It is usually expressed as debt over total assets, total debt over net assets or capital employed or earnings before interest and tax (EBIT) over interest charge (Rajan & Zingales, 1995). It is further notable that Financial leverage ratio is commonly calculated by dividing debt by shareholder equity (Matt, 2000). This study will use the total debt ratio as a measure of financial leverage.

1.1.2 Asset Growth

Firm growth implies the expansion of the firm's activities in terms of assets, profits and sales. There are two types of asset growth that have been identified in the field of financial management; internal growth and external growth (Hampton, 1993). The growth and development of the firm internally and externally is directly influenced by the financial policies adapted by the management. Hence, the growth of the firm actions determine solvency of the firm. According to Hampton (1993) three measures can be used to measure the corporate growth. These include; increase in sales, increase in profits and increase in assets. The assumption that sales, profits and assets remain constant is unrealistic. Sales and profit of most firms grow over time at least, because of their survival. Gupta (1968) and Hampton (1993) explained that the financial manager believes that the growth of the firm is based on increasing of size and business activities of a firm in the long run.

According to Hampton (1993) a number of advantages are accrued when the firm's assets are acquired through external growth such as; rapid expansion, immediate cash inflows, reduction of risk and benefits of economics of scale. There are a number of reasons for firms seeking growth, most important one being; diversification, stability, operating economics and profit from turnaround situations. Asset Growth of a firm being the basis for increased sales and profitability of the firm determines the solvency and financial strength of the organization. Pandey (1994) revealed that the Earning per Share (EPS) is an important indicator for investors for efficient allocation of capital. It is notable that the magnitude of EPS with sales will depend on the degree of asset growth (Zhao & Wijewardana, 2012).

A firm's growth is a signal that helps to increase the shareholders equity while at the same time the firms' objective of maximising returns is fulfilled. Conversely profit is the most important measure of the firm's performance. In the open market economy, profit is a signal for allocating resource efficiently and answers for basic economic questions too. Further, the magnitude of EPS with sales will depend on the degree of asset growth. It is therefore

necessary to invest in fixed assets in order to sustain growing production and sales. This will in turn increase assets to support enlarged scale of operations (Zhao & Wijewardana, 2012). Growth in assets indicates a growth in the company's size in terms of the capital base (Hampton, 1993). Growth in assets is the percentage increase in assets between the current year and the previous year. This is measured as Asset Growth Rate (AGR).

1.1.3 Relationship between Financial Leverage and Asset Growth

Financial leverage affects the firm's capital structure and hence the financial risk, because it influences the effective degree of investment irreversibility faced by the owners of the firm. When firm's investments can be financed with debt, the effective price of capital is reduced by the tax savings associated with debt financing at the time of investment. On the other hand, at the time of disinvestment, the firm has to pay back its debt, in line with the debt agreement and therefore has to give up the tax savings associated with the debt financing of that particular investment. Because the purchase price is greater than the resale price and both should be adjusted by the same value of tax savings, their ratio increases as a result of debt financing. (Penman & Richardson, 2007). This increases the effective irreversibility perceived by the owners of the firm. Since irreversibility reduces the value premium, so, too, does the investment channel of leverage.

Hampton (1993) explained that the means of internal growth is the firm's ability to increase sales and expand its own operations. The internal funds derived from retained earnings, depreciation, tax shield, and from other non-cash transactions. The outside funds generated by debt and equity or both. External sources of financing such as debt would be key in accelerating the growth of a company's asset base. Hence the relevance of financial leverage in the growth of the firm. Therefore finance managers are able to apply leverage levels to achieve the targeted growth levels in their firms. Financial leverage also affects investment firm's growth indirectly through its effect on return on equity and hence possibility of increased retained earnings for reinvestment. It is notable that that there exists a relationship between financial leverage and other growth variables as implied by its effect on future growth of the firm's assets and profits (Zhao & Wijewardana, 2012). A firm's large interest payments level up the volatility of net cash flows to stockholders. A conventional hypothesis on financial leverage is that a higher leverage implies a higher stock risks and consequently a higher stock returns (Penman & Richardson, 2007).

Asset growth is an indication of efficient deployment and use of capital and existing assets towards building financial strength and greater future earnings capacity in the medium to long term, thus is of great relevance to Capital structure and as such financial leverage. Asset growth increases shareholders equity through capital gains while ensuring greater earning capacity for the firm. The assessment of a firm's growth is absolutely useful to the interested investors who are seeking future profitability, financial strength and stability. The future performance of a business enterprise is based on the number of factors; one of the main factors is the firm financial strength and it directly affected by the firms' asset growth. According to (Pandey, 1994) if a firm acquired short-term and long-term strength it is better placed to achieve three goals of; adequate liquidity, minimization of risk and contribution to maximizing the firm's value.

There is some level of consensus that leverage is positively associated with fixed assets, firm size, non-debt tax shields and firm value, and negatively associated with volatility, advertising expenditures, profitability and the probability of bankruptcy (Harris & Raviv, 1991). Many models indicate that leverage is negatively correlated with growth opportunities (Stulz, 1990). McConnell and Servaes (1995) find that for "high-growth" firms the firm value decreases when leverage increases, whereas for "low-growth" firms the corporate value increases with leverage. This supports the hypothesis that for firms with low growth opportunities, the positive effect of debt should predominate, because debt prevents managers from taking on poor investment projects and prevents overinvestment. Similarly for high-growth firms, the negative effects of debt predominate as debt repayments ties up funds and results in underinvestment.

1.1.4 The 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 phenomenons 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 62 listed companies which been classified to identify them with various sectors in the economy (NSE, 2014).

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

Firm growth through increase in revenues, assets and profits is an implication of effective budgeting of capital and asset allocation towards strengthening financial capability and greater future earnings capacity. It therefore holds that firm growth is related to Capital structure and as such financial leverage. The assessment of a firm's growth is absolutely useful to investors and shareholders seeking sustainable future profitability, financial strength and stability (Yichen, 2013). It is further notable that asset growth proportionally increases shareholder equity and grows the value of the firm. The projected profitability of a firm is based on the number of factors. One of the main factors is the firm financial strength and it directly affected by the firms' asset growth. According to (Pandey, 1994) and (Hampton, 1993) if a firm acquired short-term and long-term strength it is better placed to achieve three goals of; adequate liquidity, minimization of risk and contribution to maximizing the firm's value.

There is some level of consensus that leverage is positively associated with fixed assets, firm size, non-debt tax shields and firm value, and negatively associated with volatility, advertising expenditures, profitability and the probability of bankruptcy (Harris & Raviv, 1991). Past studies have shown both the positive and negative effect of leverage on

fixed assets, profitability, sales and risk. Yesinia, Farshidkhairollahib and Jalilian (2014) revealed that there is no significant relation between financial leverage and the firms' growth while, there is seen a significant negative relation between financial leverage and financial strength. Sarchah and Hajiha (2013) showed that sale growth and profit growth had negatively significant effect and asset growth had positively significant effect on leverage ratios, it means that by improving the profit growth indices, company sales, leverage ratios and company risk are reduced but the increase of asset growth increased the leverage ratio. Zare, Farzanfar and Boroumand (2013) showed that the firms' financial leverage is influenced by the three variables namely the firm age, asset base and asset structure in firms. Zhao and Wijewardana (2012) revealed financial leverage to be positively related to the firm growth and financial strength.

In Kenya, some studies have been done to establish the relationship between capital structure and financial performance of firms. A study done by Nguni (2007) to investigate the relationship between gearing and profitability of firms listed at the NSE revealed an insignificant negative relation between gearing and profitability ratios. The study of Arimi (2010) on the relationship between capital structure and financial performance of firms listed under Industrial and Allied at the NSE showed a negative relationship between debt-equity ratio and ROE. Opanga (2011), in his study on the relationship between capital structure and value of firms listed at the NSE fairly concluded a casual relationship between capital structure and value of the firm, as all factors that influences capital structure choice indicated varying relationships with the value of the firm.

Based on this view it is clear that relating financial leverage and growth of firms listed in the Nairobi Securities Exchange has not been investigated. There is a need for managers to achieve a deeper understanding on the relationship between financial leverage and asset growth to better inform capital structure decisions towards attaining optimized firm growth since this translates into increased financial strength and profitability potential. This study made a significant effort to fill the research gap by examining the relationship between financial leverage and asset growth of firms listed in the NSE. It attempted to answer the question, what is the relationship between financial leverage and asset growth of firms listed in the NSE?

1.3 Research Objective

To establish the relationship between financial leverage and asset growth of firms listed in the Nairobi Securities Exchange.

1.4 Value of the Study

This study will be of importance to a number of groups. The management of firms listed in the NSE will benefit from the study in the sense that they will get a better understanding on the relationship between financial leverage and the growth of their firms. This will inform their financial decisions on how they can adjust their capital structures towards achieving the targeted levels of asset growth considering that asset growth is of great value considering it affects the firm's stability, financial strength and future financial performance.

Investors generally invest in shares of a company in anticipation of decent returns which are in form of capital gains and dividends. In such a case the study will be of importance to them in that they will be able to know whether their investments in firms listed in the NSE will attain targeted investment growth when debt is issued or when adjustments are made on the firm's capital structure. It will be of greater value to investors who are keen on asset growth towards achieving long term profitability and financial stability.

The study will make significant contribution to future researchers to advance or modify existing theories. The findings will provide a learning base for finance practitioners. The findings may also be used as a source of reference by other researchers. In addition, academic researchers may need to study findings to stimulate further research in this area of financial leverage and firm growth.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section forms the second part of the study. It reviews theoretical and empirical literature of the study. First the chapter reviews theoretical foundation of capital structure and then the relationship between financial leverage and asset growth.

2.2 Theoretical Review

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

2.2.1 Pecking Order Theory

The Pecking Order Theory (Myers,1984) states that firms have a preference of using internal sources of financing first, then debt and finally external equity obtained by issuance of stocks. The preferences are attributed to the cost gap between internal and external funds due to asymmetric information and agency problems. The Theory suggests that there is no well-defined optimal capital structure; instead the debt ratio is as a result of the hierarchical financing overtime (Myers, 1984). Pecking Order Theory by Myers (1984) predict a negative relationship between profitability and debt on the basis that successful companies do not need to depend so much on external funding. They can, instead, prefer to finance with internal funds accumulated from past profits. The results of Gaud *et al.* (2005) supported the Pecking Order Theory that highly profitable firms use internal financing, while low profit firms use more debt because their internal funds are not adequate. In literature, various proxies such as ratios of operating income over sales, operating income over total assets, the return on assets, and the return on equity have been used as indicators to measure profitability.

Pecking Order Theory further suggests that firms issuing debt send a positive signal about their future prospects. This shows that the company has more investment opportunities and growth prospects than it can handle with the internally generated funds. This aspect of signalling is consistent with shareholder wealth maximization (Munene, 2006).However, in contrast to pecking Order Theory, internal financing is not sufficient to cover investment spending on average, external financing is heavily used and debt financing does not dominate equity financing (Frank & Goyal,2003)

2.2.2 Portfolio Theory

Markowitz (1952) provided a normative approach to investors' decision to invest. It is a theory of finance which attempts to maximize portfolio expected return for a given amount of portfolio risk, or equivalently minimize risk for a given level of expected return, by carefully choosing the proportions of various assets. A portfolio is a combination of individual assets or securities. The theory states that when securities are combined into portfolios, risk is reduced. This is the concept of risk diversification, which reduces risk when the returns of the securities in a portfolio do not vary in the same direction. Risk is divided into systematic risk and unsystematic risk. Unsystematic risk is that risk that is unique to that particular security and can be totally reduced through diversification. Systematic risk also known as market risk arises on account of the economy-wide uncertainties. Market risk cannot be reduced through diversification. Portfolio theory is based on the assumption that investors are risk averse implying that the required rate of return increases with an increase in risk. The other assumption is that the returns of the securities are normally distributed.

2.2.3 The Irrelevance of Capital Structure Theory

Modigliani and Miller (1958) wrote a seminal paper on the irrelevance of capital structure. This is Modigliani and Miller Theory (1958) and argued that in the absence of taxes and transaction costs, the choice of any capital structure is irrelevant to the market value of a firm, thus financial leverage does not affect the value of the firm. However the theory was based on the assumptions of perfect capital markets, homogenous expectations, no taxes and no transactions costs. This theory state that no capital structure mix is better than another and that the increased expected rate of return generated by debt financing is exactly offset by the risk incurred regardless of the financing mix chosen. However, the tax-free perfect market does not hold in the real world. Modigliani and Miller reviewed their earlier position by incorporating corporate taxes). Modigliani and Miller (1963) with taxes was an improvement of Modigliani and Miller (1958) previous work. The assumption of zero tax rate was seen as serious limiting factor and hence the need to come up with a model that incorporate taxes. Thus in this model, Modigliani and Miller urged that the value of the firm will increase with leverage because interest is a tax deductible expense, hence there exist an extra benefit to a levered firm.

In 1977 Miller made a significant contribution both personal and corporate taxes. The model suggests that in market equilibrium, corporation tax advantages are cancelled out by the effects of personal taxes hence capital structure is irrelevant. Miller noted further that with the introduction of personal taxes, the usable income available to investors reduces when dividend are paid, thus reducing the value of unlevered firm.

2.2.4 Trade-Off Theory

Trade-Off theory (DeAngelo & Masulis, 1980) depicts that companies obtain their debt level such that marginal tax advantage of additional borrowing are offset by the increase in the cost of financial distress. Interest payments are tax-deductible expense and thus raising more debt increase tax benefit. According to this theory, a trade off of the costs and benefits of borrowing determines a firm's optimal debt ratio. This implies that an optimal capital structure is a result of balancing the value of interest tax shields against the various costs of bankruptcy and financial distress.

Trade-Off Theory further suggests that larger firms are expected to have a higher debt capacity and therefore more highly geared. This is so because large companies are more stable or have less volatile cash flows that may be able to exploit the economies of scale in issuing securities (Gaud, Jani, Hoesli & Bender, 2005). The larger a firm is, the more information is expected to be available about it, which reduces the level of information asymmetries in the market, making it possible to obtain financial resources from lenders. Because of information asymmetries, smaller firms are also likely to face higher costs for obtaining external funds. However (Titman & Wessels, 1988) found a contrary negative relationship between debt ratios and firm size. They argued that small companies, due to their limited access to the equity capital market, tend to rely heavily on bank loans for their funding requirements.

The Trade-Off Theory also suggests a positive relationship between asset tangibility and capital structure. Firms with a relatively large portion of tangible assets also have higher liquidation value, which in turn reduce bankruptcy costs. Myers and Majluf (1984) suggest that managers may reduce the cost of debt by issuing secured debt, therefore they expect that firms with assets that can be collateralized to use more debt. The trade off theory predicts that profitable companies will employ more debt since they are likely to have a high tax burden and low bankruptcy risk.

2.3 Determinants of Asset Growth

Asset growth refers to growth in the company's assets, profits and sales. Growth in assets indicates a growth in the company's size in terms of the capital base.(Hampton, 1993) explained that the financial manager believes that the growth of the firm is based on increasing of assets and business activities of a firm in the long run. There are a number of factors that determine the growth of assets and increase in financial strength of a firm. These include financial leverage, financial performance, and size of the firm and age of the firm.

2.3.1 Financial Leverage

Financial leverage and capital structure are closely related concepts linked to cost of capital and therefore capital budgeting decisions. Financial leverage is concerned with the relationship between the firm's EBIT and the earnings available to for common stockholders (Adongo, 2012). Capital structure policy involves a strategic trade-off between leverage, risk and expected return. The target capital structure policy must seek a prudent and informed balance between risk and return (Melinda & Cristina, 2009).Financial leverage can be measured by the Total Debt to Assets Ratio.

2.3.2 Financial Performance

Financial performance can be measured by profitability which is the return earned on the total assets of the company (Abor, 2005). There are different ways of analyzing net income, and it depends on the ratios used. For example, in calculating the profitability ratio, net income is commonly used to measure the performance of the firm in using its assets, equity, investment, and to compare with the sales that the firm can achieve. One of the ways to measure the profit enjoyed by shareholders is by using Return on Equity (ROE) ratio. The reason is that ROE ratio is comparable between one firm and another and can indicate the profitability of one industry with the other. ROE measures the rate of return on Equity. (Singapurwoko & El-Wahid, 2011).

2.3.3 Size of the Firm

The size of a company is commonly identified by the market value of equity and the book value of assets. The market price to book value ratio can then be computed. The size of the firm can affect asset growth from the view of a larger capital and asset base to enable increased profits and asset growth from economies of scale. Large firms are less susceptible to bankruptcy because they tend to be more diversified than smaller companies (Smith & Warner, 1979). Ang and McConnell, (1982) shares the same sentiments. Following the trade-off models of capital structure, large firms should accordingly employ more debt than smaller firms. According to Berryman (1982), lending to small businesses is riskier because of the strong negative correlation between the firm size and the probability of insolvency. Hall (1995) added that, this could partly be due to the limited portfolio management skills and partly due to the attitude of lenders. This study will use the market value of the firm, measured by total value of shares outstanding, to measure the size of the company.

2.3.4 Age of Firm

As a firm continues longer in business, it establishes itself as an ongoing entity and therefore reduces risk and increases its capacity to take on more debt. Hence age is positively related to debt levels adopted by a firm (Titman & Wessels, 1988). Before granting a loan, banks tend to evaluate the creditworthiness of entrepreneurs as these are generally believed to pin high hopes on very risky projects promising high profitability rates. In particular, when it comes to highly indebted companies, they are essentially gambling their creditors' money. If the investment is profitable, shareholders will collect a significant share of the earnings, but if the project fails, then the creditors have to bear the consequences (Myers, 1977). To overcome problems associated with the evaluation of creditworthiness, Diamond (1989) suggests the use of firm reputation. He takes reputation to mean the good name a firm has built up over the years. The name is recognized by the market, which has observed the firm's ability to meet its obligations in a timely manner. Directors concerned with a firm's reputation tend to act more prudently and avoid riskier projects in favour of safer projects, even when the latter have not been approved by shareholders, thus reducing debt agency costs. The age of the firm can be measured by the number of years it has been in operation.

2.4. Empirical Review

This section contains review of both international and local empirical studies relevant to the study. These are empirical studies done on capital structure and show the relationship between financial leverage, firm growth, financial strength and profitability in varying contexts.

2.4.1. International Evidence

Abor (2005), in his study on the effect of capital structure on profitability of twenty two (22) firms listed on the Ghana Stock Exchange (GSE).Regression analysis was used in the estimation of functions relating the Return on Equity (ROE) with measures of capital structure. The results reveal a significantly positive relation between the ratio of short-term debt to total assets and ROE. However, a negative relationship between the ratio of long-term debt to total assets and ROE was found. With regard to the relationship between total debt and return rates, the results show a significantly positive association between the ratio of total debt to total assets and return on equity.

Abu-Tapanjeh (2006) indicated that a weak relationship existed between some of the independent variable and profitability except for debt ratio. The study was done in Jordan and the objective was to examine the relationship of firm structure and profitability, taking into consideration major characteristics such as firm size, firm age, debt ratio and ownership structure. The sample of the study was forty eight (48) Jordanian industrial companies for a period from 1995 to 2004, listed in Amman Stock Exchange. The study employed two model specifications in order to test the hypotheses, using the profitability measurement of Return on Equity (ROE) and Rate of Return on Investment (ROI). He found that capital structure emerged as an important factor affecting profitability.

Amjed (2007) investigated the relationship between capital structure and the financial performance of a hundred (100) textile firms of Pakistan listed on the Karachi Stock Exchange for the period 1999–2004. Linear regression model was used to analyze the data. He found that a significant positive relationship exists between the short-term debt and profitability and statistically significant negative relationship between long-term debt and profitability. The results are partially consistent with the previous studies as the negative relationship between long-term debt and the firm performance tends to spot the dominant Pecking Order Theory. The association of short-term debt and the financial performance in

contrast attests the Static Trade-Off Theory. Total debt as a whole has no association with the firm's performance because of the inherited different characteristics of short-term debt and long-term debt.

Bhatti and Majeed (2010) examined the effect of leverage on stock returns and systematic risk in the corporate sector of Pakistan. This study examined the relationship between leverage and systematic risk. The data was collected from eight industries that are cotton, engineering, chemicals, sugar & allied, cement Fuel Energy transport & Communications. Both Primary and Secondary data were used for data collection. Primary data included face-to-face interviews with the high profile people of the selected industries in Pakistan. Secondary data was collected from Karachi stock exchange which were Annual reports, Finance books, Daily trading documents, State Bank of general Index of Share prices, Articles from Pakistan Development Review, research articles from various journals via online. Data collected was quantified and used as on experimental bases. After data collection researchers analyzed data using formulas of return, standard deviation, and leverage and applied all these formulas in Microsoft Excel. The finding of the study was that high level of leverage creating a high level of systematic risk, leading to high volatility in the stock.

Zhao and Wijewardana (2012) in their study examined relationship between Financial Leverage (FL), asset growth (FG) and Financial Strength (FS) in the listed Sri Lankan companies. The research problem of this study was to investigate whether the FL influences negatively or positively on signalling the firms' growth. Sample size of this study was 30% of thirteen sectors. The required data were collected from published annual reports, Handbook of listed companies in Sri Lanka Stock Exchange and annual reports of Central Bank of Sri Lanka from 2000 to 2009. The financial leverage variables were calculated based on the Bowman findings and, growth of the companies was represented by growth in total assets, profit, and sales. Multiple discriminate function was constructed to ascertain study financial strength variable. Multiple regression model was employed. The overall results of the study find Financial Leverage in the Sri Lankan context to be positively related to the growth and financial strength. Conversely, this situation supports this view that there is a positive rather than a negative relationship between financial leverage and other growth variables as implied by the negative signals about the future growth of the company.

Sarchah and Hajiha (2013) examined the effect of company growth indices on leverage ratios of the companies listed in Tehran Stock Exchange. The sales growth, profit growth and asset growth were applied as independent variables and leverage ratios were considered as dependent variables. Four various ratios were used to evaluate the financial leverage. To test the study hypotheses and the study of the effect of independent variables and leverage ratios, the data of 102 companies listed in TSE were applied as study sample during 2002-2011 by pooled data analysis. To estimate the suitable models of hypotheses test in pooled data, Chow and Hausman tests were used. The study revealed that sales and profit growth had negatively significant effect and asset growth had positively significant effect on leverage ratios, it means that by improving the profit growth indices, leverage ratios and company risk are reduced but the increase of asset growth increased the leverage ratio.

Zare, Farzanfar and Boroumand (2013) examined the relationship between firm size, asset structure and age and financial leverage. Based on the Pecking Order and Trade-off Theories three factors namely firm size, asset structure and age have been defined as the variables influencing financial leverage. In the next step the influence of these factors was examined on financial leverage by virtue of different life cycles (Growth, maturity and decline steps). Data was gathered from 69 member firms of Tehran stock exchange in 2001–2010. The findings indicated that the firms' financial leverage is influenced by the three variables namely the firm age, size and asset structure in the firms listed in Tehran stock exchange. It was also established that the firms' life cycle influences the managers' decisions to secure finance.

Yasemia, Farshidkhairollahib, and Jalilian (2014) examined the relationship between financial leverage and firm's growth and financial strength of accepted companies in Tehran Stock Exchange. The participants were active manufacturing companies of five industries including machinery, food and drug, cement and mineral, chemical and plastic during time period of 2002 to 2009. The statistical samples were selected by using systematic elimination method which finally 40 companies have been analyzed. The hypotheses were tested, in this study, in the total and separate industries. The study variables consisted of growth, financial strength and financial leverage which growth variable and financial strength were calculated with 3 and 4 indices, respectively. Financial leverage was measured as total debts to total assets definition and tested through regression model. Data analysis showed that there is no significant relation between financial leverage and firms' growth while, there is seen to be a significant negative relation between financial leverage and strength. The obtained results

indicated that employing financial leverage in investment structure, have no influence on the firms' growth.

2.4.2. Local Evidence

According to Munene (2006), there was a weak positive relationship between profitability of a firm and sources of financing and therefore more variables could contribute to the firms' structure and that profitability alone does not exclusively account for the variability in capital structure. He did this study on the on 48 companies listed on the NSE in Kenya for the periods 1999 to 2004. The objective was to ascertain whether there is a relationship between profitability of a firm and sources of financing. Quantitative secondary data was collected and regression analysis was used to analyze the data.

Nguni (2007), observed an insignificant negative relation between gearing and profitability ratios. The objective of the study was to investigate the relationship between gearing and profitability of firms listed at the NSE. The target population was all the 54 companies listed at the NSE. The sample of the study consisted of 36 companies, which were consistently listed at the NSE over the six-year period of 2000 to 2006. Secondary data was collected from annual financial statements of the target firms. The information was obtained from the NSE, Capital Markets Authority (CMA) and company registry. Simple regression was done at market level with the nature and strength of the relationship determined by correlation of coefficient and the coefficient of determinant.

Kanyuru (2010) examined the relationship between capital structure and financial performance of 32 non-financial companies listed at the NSE for the period 2000 to 2009 based on the secondary data. First, Pearson product-moment correlation and regression analysis models were used for data analysis. He concluded that as the firms performance improve, the firm tent to reduce debt financing and switch to equity financing.

Arimi (2010), in his study to establish the relationship between capital structure and financial performance of firms listed under Industrial & Allied at the NSE. Sample included 15 companies that were continuously listed for 5 years between 2004 to 2008. Secondary data was applied and data relating to research questions were obtained from the audited financial statements of respective companies. Yearly debt/equity ratio and return on Equity was computed for companies under the study. Data was analyzed using Statistical Packages for Social Sciences (SPSS) version 17. The findings were based on the regression analysis

revealing a negative relationship between debt/equity ratio and Return on equity and thus the conclusion of the study was that companies were not willing to source funds externally when the ROE was on the increase.

Opanga (2011), investigated on the relationship between capital structure and the value of the firms listed at the NSE for the period 2005 to 2010. The study used debt-equity ratio as proxy for capital structure and selected financial ratios to represent the attributes of firm's value in investigating the relationship. Attributes used were profit ratio, dividend payout ratio, assets and operating efficiency, growth rate, liquidity ratio and business risk. The study employed secondary data, which were collected from published annual financial reports and authorized NSE data. Data analysis was done using cross-sectional regression and time series. Correlation analysis was used to describe the degree to which variables were related. One of the findings of the study was that the value of the firm is highly positively correlated with Dividend per share (DPS). Another finding was that the value of the firm as measured by share price was inversely related to sales growth.

Adongo (2012) studied the effect of financial leverage on profitability and risk of firms listed at the Nairobi Securities Exchange (NSE) for the periods 1 January 2007 to 31 December 2011. A casual research design was adopted for the study. Secondary data was used and data collected from the thirty companies sampled. Sources of data included NSE database, Capital Markets Authority (CMA). Data was analyzed using SPSS version 17. Cross-sectional time series fixed model was used with the regression and correlation analysis to determine the nature and the strength of the relationship between the independent and dependent variables. The findings of the first model indicated a negative relationship between profitability and financial leverage. The second finding showed a positive relationship between risk and financial leverage. The third finding was that of a negative relationship between returns adjusted and financial leverage.

2.5. Summary of Literature Review

There is a lot of literature on capital structure and financial leverage, and that the capital structure remains elusive in prior studies due to a number of factors influencing capital decisions. Past studies have shown both the positive and negative effect of leverage on Fixed assets, profitability, sales and risk. Yasemia, Farshidkhairollahib, and Jalilian (2014) revealed

no significant relation between financial leverage and firms' growth while, there is seen a significant negative relation between financial leverage and strength.

Sarchah and Hajiha (2013) showed that sale growth and profit growth had negatively significant effect and asset growth had positively significant effect on leverage ratios. Zare, Farzanfar and Boroumand (2013) showed that the firms' financial leverage is influenced by the three variables namely the firm age, size and asset structure in firms. Zhao and Wijewardana (2012) examined relationship between Financial Leverage, asset growth and Financial Strength and revealed Financial Leverage to be positively related to the firm growth and financial strength. These studies are consistent with the Pecking order and Trade-off Theories, but inconsistent with Modigliani Miller indicating gaps for investigation.

Abor (2005) shows a significantly positive association between the ratio of total debt to total assets and return on equity. Yoon and Jang (2005) further suggested that regardless of having lower financial leverage, smaller restaurant firms were significantly more risky than larger firms. These studies are consistent with Modigliani Miller Theory, Portfolio theory but inconsistent to pecking order theory hence indicating empirical-theoretical gaps that need further study in the area of financial leverage and profitability and financial strength of firms. However, Abor (2005) and Yoon and Jang (2005) are consistent with (Abu-Tapanjeh, 2006) who indicated a weak relationship existed between some of the independent variable and profitability except for debt ratio. Further to that, Munene (2006), revealed a weak positive relationship between profitability of a firm and sources of financing and therefore more variables could contribute to profitability. Nguni (2007), further observed an insignificant negative relation between gearing and profitability ratios. Kanyuru (2010) concluded that as the firms performance improve, the firm tent to reduce debt financing and switch to equity financing. Arimi (2010), revealing a negative relationship between debt/equity ratio and Return on equity. These studies are consistent with Pecking Order and Trade-Off Theories but are inconsistent with Modigliani Miller and Portfolio theories further indicating further gaps for investigation.

Therefore it is notable that, there exists a gap in investigation of capital structure determinants such as; asset and sales growth, firm size, risk, liquidity, profitability and variability. Hence the consideration of asset growth and financial leverage in this study.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1. Introduction

According to Polit and Hungler (2003), research methodology refers to ways of obtaining, organizing and analyzing data. This section outlines the general methodology that was used to conduct the study. It specifies the research design, target population, sample, data collection method and instruments, data analysis and interpretation.

3.2. Research Design

A research design is the arrangement of conditions for data collection and analysis of data in a manner that aim to combine relevance to research purpose with economy in research procedure (Kothari, 2004). It is a blueprint that follows in completing a study. Churchill (1996) defines research design as simply a framework or plan for a study used as guide in collecting and analyzing data.

The descriptive research design was adopted for this study. Descriptive research design seeks to define the relationship between one variable and another. This study examined the relationship between the independent variable and the dependent variables. In this study, the independent variable was financial leverage measured by total debt to assets ratio while the dependent variable will be asset growth measured by asset growth rate (AGR).

3.3. Population

A study population is a well defined or specific set of elements or events which are being investigated. Thus the population should fit certain specification and should be homogeneous (Ngechu, 2004).The population of the study consisted of all the firms listed in the NSE. Currently, there are sixty two (62) companies quoted at the Nairobi Securities Exchange (NSE, 2014).These are provided in Appendix I. However, twenty (20) companies listed under the banks, insurance and investment category were excluded from the study considering that these companies' capital structures are regulated and are required to adhere to certain liquidity and /or leverage ratios. The study also excluded the firms that have not been continuously listed over the mentioned period as well as firms that did not have the full data required for the calculations of the variables of the study.

3.4. Data Collection

According to Ngechu (2004), there are various methods of data collection. The choice of the method depends mainly on the attributes of the subjects, research problem, objectives, research design, expected data and results. This is because each tool and instrument collects specific data.

A secondary data collection method was used. Data was collected from annual audited financial reports and statements of respective companies sampled. The financial reports for five years were analyzed for the purpose of meeting the research objective. Financial statistics collected from annual Financial Statements and Reports included Total Assets (TA), Total Liabilities (TL), total shareholders' equity (E), earnings after tax (EAT), net income (NI), long-term liabilities, and short-term liabilities. The secondary data collected was then used to compute total debt to assets ratio and asset growth rate (AGR) for the five years 2009 to 2013. In the study, book values were used for the computation of financial leverage and asset growth rate.

3.5. Data Analysis

Data Analysis is the process of bringing order, structure and meaning to the mass of information collected. It involves examining what has been collected and making deductions and inferences Kombo and Tromp (2006). Descriptive statistics techniques was used to analyze the quantitative data. Coding was done using statistical software SPSS version 22.0, analyzed and the output interpreted in ratios and percentages. In addition, correlation and regression analysis was used to assess the strength and nature of the relationship between the variables used in the study.

3.5.1. Analytical Model

The study used a multiple regression to analyze the data using statistical package for the social sciences (SPSS) version 22.0. A multiple regression model was used to establish the relationship between the independent variables and the dependent variable which are explained in the model. The regression model explains the magnitude and direction of relationship between the variables of the study through the use of coefficients of correlation, coefficient of determination and tests on the level of significance. The multiple regression model that the study adopted is as follows:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \epsilon_{it}$$

Where:

$$Y = \text{AGR}_{it} \text{ is the Asset Growth Rate of Company } i \text{ at time } t \\ = \text{Assets Growth Rate} = \frac{\text{Assets of the Current Year} - \text{Assets of the Previous Year}}{\text{Assets of the Previous Year}}$$

$$X_1 = \text{LEV}_{it} \text{ is the Total Debt to Assets Ratio of Company } i \text{ at time } t \\ = \text{Total Debt to Assets Ratio} = \frac{\text{Total Debt [Short term + Long term debt]}}{\text{Total Assets [Current Assets + Fixed Assets]}}$$

$$X_2 = \text{ROE}_{it} \text{ is the Return-on-Equity Ratio of Company } i \text{ at time } t \\ = \text{Return on Equity (ROE)} = \frac{\text{Net Income}}{\text{Shareholder's Equity}}$$

$$X_3 = \text{Size of the firm measured as natural Logarithm (In) of Value of the Company } i \text{ at time } t \\ = \text{LN (Market Value)} = \text{LN (Total value of shares outstanding)}$$

$$X_4 = \text{AGE of the firm measured as natural Logarithm (In) of } it \text{ is the Age of Company } i \text{ at time } t \text{ in years} \\ = \text{LN(AGE)}$$

$$\beta_0 = \text{Constant of the regression in the equation.}$$

$$B_1 - B_4 = \text{Regression coefficient values indicating sensitivity of dependent variable associated with a unit change in the specific independent variable. (The study hypothesized the signs of the coefficients to be positive)}$$

$$\epsilon_{it} = \text{Error term}$$

3.5.2. Variables and Measurements

The dependant and independent variables used in the study were asset growth and financial leverage respectively. The other independent variables used in the study were return on equity (ROE), value of the firm and age of the firm and these were used as control variables. To calculate the variables, the following financial statistics were used as presented in table 3.1

Table 3.1: Variables and Measurements

Net Income (NI)	This is the firms net earnings after corporate taxation for the year
Short term debt	This refers to the firms debts which fall due within a period of one year
Long term debt	This refers to the firms debts which fall due beyond the period of one year
Total debt	The sum of long term and short term debt
Shareholders' Equity	This includes share capital, capital reserves, revaluation reserves
Total Assets	The sum of current assets and non-current assets
Asset Growth Rate	This is calculated as total assets of the current year less total assets of the previous year and the result divided by total assets of the previous year
Leverage	This is calculated as the total debt divided by Total Assets
Return on Equity	This is calculated by dividing the Net Income by the shareholders' Equity
Size of the firm	Size of the firm measured as natural Logarithm (In) of value of the Company <i>i</i> at time <i>t</i> , calculated by multiplying the No. of shares by the price per share.
Age of the firm	AGE of the firm measured as natural Logarithm (In) of the Age of Company <i>i</i> at time <i>t</i> in years

Source: Researcher

3.5.3 Test of Significance

In the analysis process, relationships or differences that held or differed from the hypothesized relationship were subjected to tests of significance to determine with what validity data can be deemed to indicate any conclusions. Where there were differences, statistical tests were applied to find out whether the differences were real or as a result of random fluctuations.

The analysis of variance (ANOVA) test was used to determine the significance of the regression while the Pearson correlation was used to determine the significance of individual coefficients. Results are said to be statistically significant within the 0.05 level, which means that the significance value must be smaller than 0.05. The significance was determined by the p-values of the respective variables, which indicated the level of standard error of which the sample diverged from the tested value.

The coefficient of Determination (R^2) was used to determine how much variation in the dependent variables can be attributed to the independent variables in the regression model. This was done at 95% confidence level. Correlation analysis was also carried out to find the direction of the relationship between financial leverage and asset growth.

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSIONS

4.1 Introduction

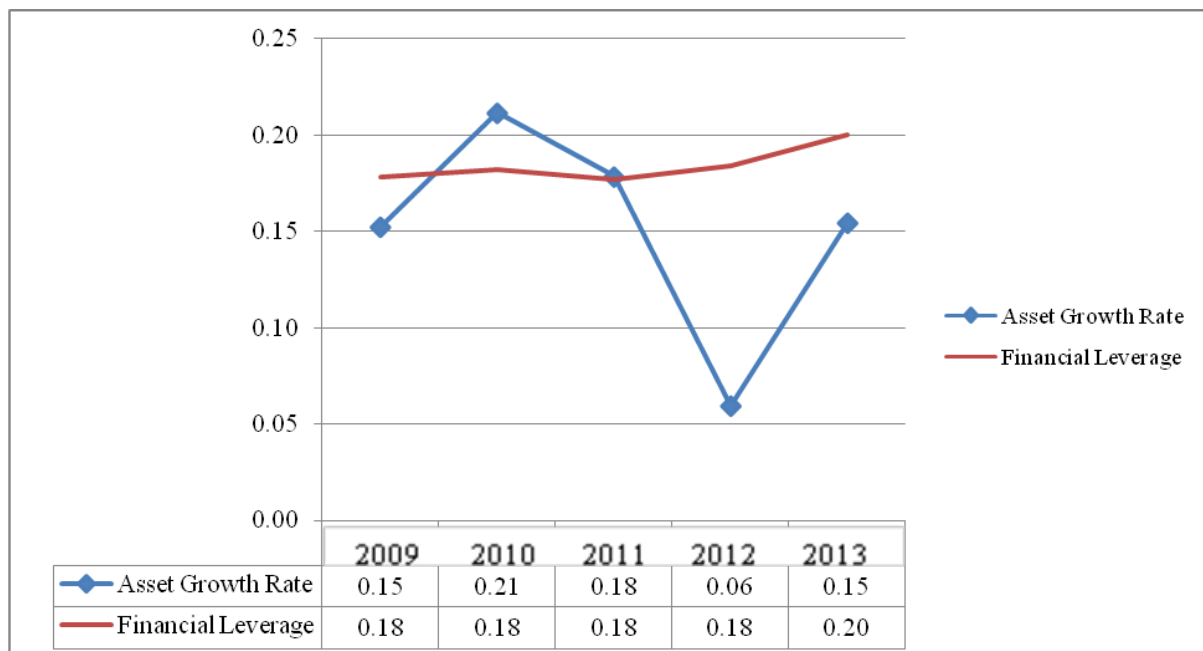
This section represents the data presentation, analysis and findings of the study. The chapter commences with an outline of the variables used in the study and their measurement. This section will then cover data presentations and descriptive statistics which explore the measures of central tendency of variables used in the analysis. Descriptive statistics, correlation and regression analysis were used to assess the nature and strength the relationship between the variables used in the study.

4.2 Findings

4.2.1 Financial Leverage and Asset Growth

Figure 4.1 shows the graphical presentation of the relationship between financial leverage and asset growth for the companies sampled for the five year period between 2009 and 2013. Yearly averages of financial leverage were computed and used.

Figure 4.1: Graphical presentation of the Relationship between Financial Leverage and Asset Growth



Source: Research Findings

From the graph, it clearly shown that between years 2009 and 2011, and also between 2012 and 2013 there was a direct relationship between financial leverage and asset growth. This means that as financial leverage increases, asset growth rate increases as well. Between 2011 and 2012, there is an inverse relationship between financial leverage and asset growth meaning as financial leverage increases, asset growth decreases.

4.2.2 Descriptive Statistics of Variables

This section presents the descriptive results where the measures of central tendency are presented. Results in Table 4.1 indicate that the lowest asset growth rate of firms listed at the Nairobi Securities Exchange over the period of study of 2009 to 2013 was -0.1592 while the highest was 0.6015. The average asset growth rate over the same period was 0.151354. The analysis also shows that the lowest leverage ratio was 0.0120, while the highest was 0.4548. The average leverage ratio was 0.181999. The average return on equity (ROE) was 0.119493. The minimum and maximum ROE over the period of the study was -0.6524 and 0.5096 respectively. The analysis also shows that the minimum value of firms was 14.7295 while the maximum and average value was 25.8452 and 21.657349 respectively. The mean age of firm was 3.917058, while the maximum and minimum age was 4.9523 and 2.6027 respectively.

Table 4.1: Descriptive statistics

	Minimum	Maximum	Mean	Std. Deviation
Asset Growth Rate	-.1592	.6015	.151354	.1352877
Leverage	.0120	.4548	.181999	.1151530
Return on Equity	-.6524	.5096	.119493	.1827927
Ln (Value of firm)	14.7295	25.8452	21.657349	2.2065646
Ln (Age of firm)	2.6027	4.9523	3.917058	.5680039
Valid N (listwise)				

Source: Research Findings

4.2.3 Regression Analysis

Regression analysis involves identifying the relationship between a dependent variable and one or more independent variables. A model of the relationship is hypothesized, and estimates of the parameter values are used to develop an estimated regression equation. Various tests are then employed to determine if the model is satisfactory. If the model is deemed satisfactory, the estimated regression equation can be used to predict the value of the dependent variable given values for the independent variables.

Table 4.2: Regression Model Summary

Model	R	R-Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R-Square Change	F Change	df1	df2	Sig. F Change
1	.547 ^a	.299	.208	.1203808	.299	3.301	4	31	.023

a. Predictors: (Constant), Ln (Age of firm), Return on Equity, Leverage, Ln (Value of firm)

Source: Research Findings

The results in table 4.2 indicate the goodness of fit of the model. The R-squared value of 0.299 means that 29.9% of the variation in asset growth is explained by financial leverage, return on equity, In (Value of the firm) and In (age) of the firm. This further implies that 70.1% of the variation in asset growth is explained by other factors not captured in the model. The Adjusted R squared is the coefficient of determination which indicates the variation in the dependent variable due to changes in the independent variables. Table 4.2 further indicates a value of adjusted R squared was 0.208 an indication that there was variation of 20.8% on asset growth due to changes in financial leverage, return on equity, In (Value of the firm) and In (age) of the firm at 95% confidence interval.

4.2.4 Analysis of Variance

Analysis of Variance (ANOVA) test is used for analysis of variances or comparison for two or more variables. The analysis of variance results in table 4.3 indicate that the overall model was statistically significant. This was supported by a p-value of 0.023 which is less than the critical value of 0.05. The ANOVA results demonstrated that there is significant relationship between asset growth and financial leverage, return on equity, In (Value of the firm) and In (age) of the firm.

Table 4.3: Analysis of Variance

ANOVA ^a						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.191	4	.048	3.301	.023 ^b
	Residual	.449	31	.014		
	Total	.641	35			

a. Dependent Variable: Asset Growth Rate

b. Predictors: (Constant), Ln (Age of firm), Return on Equity, Leverage, Ln (Value of firm)

Source: Research Findings

4.2.5 Coefficients of Regression

Table 4.4 presents the regression of coefficients which indicates a positive relationship between financial leverage and asset growth. However, the results indicate the relationship to be insignificant since the reported p-value of 0.998 is more than the critical value of 0.05. The results also indicate that In. (value of firm) and In. (Age of firm) had an insignificant effect on asset growth. However return on equity was found to have a significant effect on asset growth since the reported p-value of 0.006 is substantially lower than the critical value of 0.05. The coefficients from table 4.4 were used to develop the regression equation as follows:

$$\text{Asset Growth Rate} = (-0.213) + 0.002\text{Lev} + 0.363\text{ROE} + 0.01\text{Size} + 0.037\text{Age}$$

Table 4.4: Coefficients of Regression

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
	B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tol	VIF
1 (Constant)	-.213	.268		-.794	.433	-.760	.334					
Leverage	.002	.185	.753	-.003	.998	-.379	.378	-.040	.000	.000	.908	1.102
Return on Equity	.363	.123	.490	2.950	.006	.112	.613	.504	.468	.444	.820	1.219
Ln (Value of firm)	.006	.010	.102	.620	.540	-.014	.027	.261	.111	.093	.837	1.195
Ln (Age of firm)	.047	.037	.199	1.274	.212	-.028	.123	.126	.223	.192	.927	1.079

a. Dependent Variable: Asset Growth Rate

Source: Research Findings

4.2.6 Correlation Analysis

Correlation analysis, same as regression analysis seeks to establish the relationships among the variables within the scope of the study. The correlation coefficient is a measure of linear association between two variables. It is used to check the multicollinearity of independent variables. If the absolute value of Pearson correlation is greater than 0.8, collinearity is very likely to exist. If the absolute value of Pearson correlation is close to 0.8 (such as 0.7 ± 0.1), collinearity is likely to exist. The values of the correlation coefficient are always between -1 and +1. The sign of the correlation coefficient (+, -) defines the direction of the relationship, either positive or negative.

A positive correlation coefficient means that as the value of one variable increases, the value of the other variable increases; as one decreases the other decreases. A negative correlation coefficient indicates that as one variable increases, the other decreases, and vice-versa. The absolute value of the correlation coefficient measures the strength of the relationship. On the other hand, a correlation coefficient of zero indicates that there is no linear relationship between the two variables.

Table 4.5: Correlation Matrix

		Correlations				
		Asset Growth Rate	Leverage	Return on Equity	Ln (Value of firm)	Ln (Age of firm)
Pearson Correlation	Asset Growth Rate	1.000	-.040	.504	.261	.126
	Leverage	-.040	1.000	-.181	.028	.231
	Return on Equity	.504	-.181	1.000	.377	-.122
	Ln (Value of firm)	.261	.028	.377	1.000	-.130
	Ln (Age of firm)	.126	.231	-.122	-.130	1.000
Sig. (1-tailed)	Asset Growth Rate	.	.408	.001	.062	.232
	Leverage	.408	.	.146	.435	.088
	Return on Equity	.001	.146	.	.012	.240
	Ln (Value of firm)	.062	.435	.012	.	.225
	Ln (Age of firm)	.232	.088	.240	.225	.

a. N = 36

Source: Research Findings

Table 4.5 represents the correlation matrix of the variables used in the study. asset growth, leverage, return on equity (ROE), In.(Value of firm) and In.(Age of firm).The correlation matrix indicates that there is a positive relationship between asset growth and return on equity, In(Value of firm) and In(Age of firm).There is also a positive relationship financial leverage between In(Value of firm) as well as In(Age of firm).It was further established that there is a positive correlation between In(Value of firm) and asset growth, financial leverage and return on equity. The table further reveals that there is a negative correlation between asset growth and financial leverage, return on equity and In (Age of firm), financial leverage and return on equity.

4.3 Interpretation of the Findings

The purpose of this study was to establish the relationship between financial leverage and asset growth of firms listed at the NSE. Secondary data was collected from NSE database and Annual Audited financial statements for the companies that formed the sample. Current assets, non-current assets, net income (NI), short term debt, long term debt and shareholders' equity, market value and age of firm are the financial statistics collected and then used to calculate the asset growth rate, financial leverage, return on equity, $\ln(\text{Value of firm})$ and $\ln(\text{Age of firm})$ for the five year study period. Data collected was keyed into SPSS 22.0 and analysis undertaken. The multiple regression model used is as follows:

$$\text{Asset Growth Rate} = \beta_0 + \beta_1\text{Lev} + \beta_2\text{ROE} + \beta_3\text{Size} + \beta_4\text{Age} + \epsilon_{it}$$

The minimum asset growth rate of firms listed at the Nairobi Securities Exchange over the period of study of 2009 to 2013 was -0.1592 while the maximum was 0.6015. The average growth rate over the same period was 0.151354. The standard deviation of asset growth rate over the same period was 0.1352877 indicating that asset growth rate did not deviate much from the mean of 0.151354. This alludes to general stability in the asset growth rate of firms. Trend analysis reveals that there was an increase in asset growth in the years 2009-2010 and 2012-2013. There was a decline of the same in 2010-2012. The overall trend of asset growth shows a decrease on asset growth rate over period of the study of 2009-2013.

The analysis further indicates that the minimum leverage ratio was 0.0120, while the maximum was 0.4548. The mean leverage ratio was 0.181999. The standard deviation of leverage over the same period was 0.1151530 indicating that leverage ratios did not deviate much from the mean of 0.181999. Trend analysis indicates that there was an increase in financial leverage over period of the study of 2009-2013. This implies that there is a general trend of firms increasing the level of debt in their funding structure over the mentioned period. The mean return on equity (ROE) was 0.119493. The minimum and maximum ROE over the period of the study was -0.6524 and 0.5096 respectively. The standard deviation of return on equity over the same period was 0.1827927 indicating that ROE did not deviate much from the mean of 0.119493. Trend analysis indicates that there was a decrease in ROE between years 2009-2010 followed by a consistent increase between years 2010-2013. This reveals that firms' profitability increased consistently between years 2010-2013.

The minimum natural logarithm (In.) of value of firms was 14.7295 while the maximum and average values were 25.8452 and 21.657349 respectively. The standard deviation of 2.2065646 indicates that the value of the firms varies substantially within the population. This implies that firms listed at the NSE are made of low, medium and high capitalization firms. Trend analysis indicates that the value of firms increased in the period 2009-2010 and 2011-2013 but decreased in 2010-2011. The general growth trend in market value implies a growth in value of firms and the general economy over the period of the study. The mean natural logarithm (In) of age of firm was 3.917058, while the maximum and minimum age was 4.9523 and 2.6027 respectively. The standard deviation of 0.5680039 indicates that the age of the firms varies within the population. This implies that firms listed at the NSE are made of growing and mature companies in reference to age.

The results of the regression analysis indicate that is a positive but insignificant relationship between financial leverage and asset growth of firms listed in the NSE. The coefficient of +0.002 indicate the positive relationship while the reported p-value of 0.998 is more than the critical value of 0.05, hence demonstrating the insignificance of the relationship. Results further indicate that In. (value of firm) and In. (Age of firm) had an insignificant effect on asset growth. However return on equity was found to have a significant effect on asset growth since the reported p-value of 0.006 is substantially lower that the critical value of 0.05.

The coefficients from table 4.4 were used to derive the multiple regression equation as follows:

$$\text{Asset Growth Rate} = (-0.213) + 0.002\text{Lev} + 0.363\text{ROE} + 0.01\text{Size} + 0.037\text{Age}$$

The results of the correlation analysis indicate a low multicollinearity between variables of the study. This is demonstrated by the absolute values of Pearson correlation from table 4.6 being lower than 0.8. If the absolute value of Pearson correlation is greater than 0.8, collinearity is very likely to exist. If the absolute value of Pearson correlation is close to 0.8 (such as 0.7 ± 0.1), co linearity is likely to exist. The analysis reveals that the effect of financial leverage on asset growth is lower than 0.5 and as such leads to a conclusion that the relationship between financial leverage and asset growth of firms listed in the NSE though being positive is insignificant as further demonstrated by the reported p-value of 0.998 which is higher than the critical value of 0.05. Therefore, there are other factors explaining a much higher percentage in variations of the dependent variable.

The results of the study are consistent with the study of Zare, Farzanfar and Boroumand (2013) which concluded that the firms' financial leverage is influenced by the three variables namely the firm age, size and asset structure in firms. The results are further concur with the study of Zhao and Wijewardana (2012) which examined the relationship between financial leverage, asset growth and financial strength and revealed financial leverage to be positively related to the firm growth and financial strength. These studies are consistent with the Pecking order and Trade-off Theories but inconsistent with Modigliani Miller theory. The results of the study further relate to the study of Yasemia, Farshidkhairollahib, and Jalilian (2014) that revealed an insignificant relation between financial leverage and firms' growth while, there is seen a significant negative relation between financial leverage and strength.

There are some studies done in the past that reveal contrary findings to this study. Nguni (2007) observed an insignificant negative relation between gearing and profitability ratios. Kanyuru (2010) concluded that as the firms performance improve, the firms tend to reduce debt financing and switch to equity financing. Arimi (2010), revealing a negative relationship between debt-equity ratio and return on equity. These studies are consistent with Pecking Order and Trade-off Theories but are inconsistent with Modigliani Miller and Portfolio theories.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This section of the study provides a summary of findings of the study, conclusion, policy recommendations, limitations of the study and suggestions for further research.

5.2 Summary

The objective of the study was to establish the relationship between financial leverage and asset growth of firms listed at the NSE for the period 2009 to 2013. A descriptive research design was adopted for the study, to explore the relationship between dependent variable and the independent variables. Asset growth measured by asset growth rate was taken as the dependant variable while financial leverage was taken as the independent variable measured by total debt to assets ratio. The other independent variables of financial performance measured by return on equity (ROE), value of the firms measured by natural logarithm (ln) of the firm market value and age of the firms measured by natural logarithm (ln) of age of the firms. These variables were used as control variables in the study.

The population comprised of sixty two (62) companies listed at the Nairobi Securities Exchange over the period of study. Secondary data collection method was used and data was collected of thirty six (36) firms sampled. The sources of data included NSE database and Annual audited financial statements of sampled companies. Data collected were the financial statistics which enabled the calculations of the variables used. Data was analyzed using SPSS version 22. Multiple regression and correlation analysis were used to determine the nature and strength of the relationship between the independent and dependent variables in the study.

The findings of this study were as follows; the model fitness results indicated an R-squared value of 0.299 which means that 29.9% of the variation in asset growth is explained by financial leverage, return on equity, ln (Value of the firm) and ln (Age) of the firm at 95% confidence interval. This implies that 70.1% of the variation in asset growth is explained by other factors not captured in the model. The regression analysis results further indicate that there is a positive but insignificant relationship between financial leverage and asset growth of firms listed in the NSE. The financial leverage coefficient of +0.002, hence 0.002Lev in

the derived regression model indicates the positive relationship between the two variables. The reported p-value of 0.998 is more than the critical value of 0.05, hence demonstrating the insignificance of the relationship between financial leverage and asset growth.

5.3 Conclusion

The study aimed to establish the relationship between financial leverage and asset growth of firms listed at the NSE for the period 2009 to 2013. The descriptive research design was adopted for this study. Descriptive research design seeks to define the relationship between one variable and another. This study examined the relationship between the dependent and the independent variables. Asset growth measured by asset growth rate was taken as the dependant variable while financial leverage was taken as the independent variable measured by total debt to assets ratio. The other independent variables were financial performance measured by return on equity (ROE), Value of the firms measured by natural logarithm (In) of market value and Age of the firms measured by natural logarithm (In) of age of the firms. These variables were used as control variables in the study.

A multiple regression model was used to establish the relationship between financial leverage and asset growth. Multiple regression and correlation analysis were used to determine the nature and strength of the relationship between the independent and dependent variables in the study. Based on the regression and correlations analysis the first finding indicated that 29.9% of the variation in asset growth is explained by financial leverage, return on equity, In (Value of the firm) and In (Age) of the firm at 95% confidence interval. The second finding was that there exists a positive relationship between financial leverage and asset growth of firms listed in the NSE. The financial leverage coefficient of +0.002, hence $0.002Lev$ in the derived model indicates the positive relationship between the two variables. The third finding was that the relationship between financial leverage and asset growth is insignificant. This insignificance is demonstrated by the reported p-value of 0.998 which is more than the critical value of 0.05.

The results of the study indicate a positive but insignificant relationship between financial leverage and asset growth. Because of the insignificance in the relationship between the variables and further considering that only 29.9% of the variation in asset growth is explained by financial leverage, the researcher concluded that there could be other factors that could have a more significant effect on the dependent variable which were not part of this study.

5.4 Policy Recommendations

Capital is an important resource in the firm's financial decision making process along with the other resources in an effort to achieve the desired corporate growth levels. Corporate sector growth is critical to economic expansion and is an indication of efficient deployment and use of capital and existing assets towards building financial strength and greater future earnings capacity in the medium to long term. However, the firm's financing strategy determines the capital structure of the firm. The findings of this study indicate a positive relationship exists between financial leverage and asset growth. However it is also clear that the relationship is not significant. The management of the firms listed in the NSE should identify factors that could have a significant impact on the company's asset growth and only concentrate on those that could lead to higher asset growth rates and financial strength.

The objective of any firm is to maximize return on shareholders' wealth. Shareholders wealth is maximized when the expected rate of return is higher than the cost of capital. Returns are also realised in form of capital gains which is a function of company growth. From the findings of the study above, there is a direct relationship between financial leverage and asset growth. However, excessive borrowing can lead to financial distress and bankruptcy; therefore it is recommended that there should be a trade-off between debt equity financing decisions towards ensuring optimal structure that will support company growth.

Investors generally invest in shares of a company in anticipation of returns in form of earnings and capital gains. The main investor objectives to invest in a portfolio are 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 towards identifying factors that significantly impact on asset growth in firms to enable them select their portfolios for optimized returns.

5.5 Limitations of the Study

The study only focused on companies which were continuously listed at the NSE for the period of 2009 and 2013. This number which is relatively small compared to the number of non-listed firms in the country and thus the findings can neither be generalized as true for all companies in Kenya considering that not all the companies in the country were included in the study.

The study relied on secondary data which were collected from Annual audited financial statements of the sampled companies and the NSE database. 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 data was not perfect. There were two (2) companies of which were newly listed at the NSE over the period of the study. These did not form part of the final sample. In addition, there were four (4) companies of which the researcher could not find all the information's for the period of the study. These as well did not form part of the final sample of thirty six (36).

The study covered the period 2009 to 2013. This means that only five observations were included in the analysis. A longer period of thirty or more observations would be more appropriate and could give different results. However collection of such data was not possible. The data collected for the study was based on book values rather than market values. Market values of could possibly have yielded different results.

5.6 Suggestions for Further Studies

A similar study could be carried out over a longer period of time than a five year one and market values be used as opposed to book values as used in this study. A study period of fifteen years or longer could yield different results from the ones realised by this study.

The researcher suggests that a similar study be carried out on companies identified with segments as categorized by NSE. Currently these segments are Agricultural, Commercial & Services, Telecom & Technology, Automobiles & Accessories, Banking, Insurance, Investments, Manufacturing & Allied, Construction & Allied and lastly Energy & Petroleum. The finding could have a basis for a general conclusion.

The study used total debt to assets ratio as a measure of financial leverage and asset growth rate as a measure of asset growth. There are other measures which can be used for these variables. The suggestion of the researcher is that other measures could be used other than those used in this research if such can yield different findings.

The researcher used secondary data only. The findings of insignificant or weak relationship between independent and dependent variables, suggested that there are other factors that have significant correlation on the dependent variables other than financial leverage. Due to this, the researcher proposes the use of primary data where management of the companies can be adequately consulted on the position of other factors that can strongly explain the variation of the variables used.

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APPENDIX I : LISTED FIRMS AT NAIROBI SECURITIES EXCHANGE

Agricultural Sector
1. Eaagads Limited
2. Kakuzi Limited
3. Kapchoroa Tea Company Limited
4. The Limuru Tea Company Limited
5. Rea Vipingo Plantations Limited
6. Sasini Tea & Coffee Limited
7. Williamson Tea Kenya Limited
Automobiles & Accessories
8. Car & General (K) Limited
9. CMC Holdings Limited
10. Marshals (E.A) Limited
11. Sameer Africa Limited
Banking
12. Barclays Bank Limited
13. CFC Stanbic Kenya Holding
14. Diamond Trust Bank Limited
15. Equity Bank Limited
16. Housing Finance
17. I & M Holdings Limited
18. Kenya Commercial Bank Limited
19. National Bank of Kenya
20. NIC Bank Limited
21. Standard Chartered Kenya Limited
22. Co-op Bank of Kenya Limited
Commercial & Services
23. Express Kenya Limited
24. Hutchings Biemer
25. Kenya Airways Limited
26. Longhorn Kenya Limited
27. Nation Media Group Limited
28. Scan Group Limited
29. Standard Group Limited
30. TPS EA (Serena)
31. Uchumi Supermarket Limited

Construction & Allied
32. ARM Cement Limited
33. Bamburi Cement Limited
34. Crown Paints Kenya Limited
35. East Africa Cables Limited
36. E.A Portland Cement Company Limited
Energy & Petroleum
37. Kengen Company Limited
38. Kenolkobil Limited
39. Kenya Power & Lighting Company Limited
40. Total Kenya Limited
41. Umeme Limited
Insurance
42. British American Investments Company Limited
43. CIC Insurance Group Limited
44. Jubilee Holdings Limited
45. Kenya Re-Corporation
46. Liberty Kenya Holdings
47. Pan Africa Insurance Company Limited
Investment
48. Centum Investment Company Limited
49. Olympia Capital Holdings
50. Transcentury Limited
Manufacturing & Allied
51. A.Bauman & Company Limited
52. BOC Kenya Limited
53. British American Tobacco Kenya Limited
54. Carbacid Investments Limited
55. East African Breweries Limited
56. Eveready (E.A) Limited
57. Kenya Orchards Limited
58. Mumias Sugar Limited
59. Unga Group Limited
Telecommunications & Technology
60. Safaricom Limited
61. Access Kenya Limited
Growth & Enterprise Market Segment(GEMS)
62. Home Afrika Limited

Source: Nairobi Securities Exchange, 2014

APPENDIX II: ASSET GROWTH RATE (AGR)

Company	2009	2010	2011	2012	2013	Mean
1. Eaagads Limited	-0.06	0.06	0.28	0.62	-0.13	0.15
2. Kakuzi Limited	0.08	0.12	0.19	-0.06	0.04	0.07
3. Kapchorua Tea Company Limited	0.19	0.28	0.05	0.25	0.06	0.17
4. Limuru Tea Company Limited	0.47	0.87	0.21	0.67	0.79	0.60
5. Rea Vipingo Plantations Limited	-0.13	0.21	0.34	0.04	0.18	0.13
6. Sasini Tea And Coffee Limited	0.18	0.13	0.04	-0.06	0.01	0.06
7. Williamson Tea Kenya Limited	-0.43	1.61	0.13	0.20	0.11	0.32
8. Car & General (Kenya) Limited	0.17	0.21	0.44	0.03	0.21	0.21
9. CMC Holdings Limited	0.11	0.10	-0.01	-0.11	-0.05	0.01
10. Marshalls (EA) Limited	0.19	-0.21	-0.04	-0.47	-0.09	-0.13
11. Sameer Africa Limited	0.07	-0.05	0.10	0.09	0.08	0.06
12. Express Kenya Limited	-0.01	0.03	-0.43	-0.35	-0.03	-0.16
13. Kenya Airways Limited	-0.01	-0.04	0.07	-0.02	0.58	0.12
14. Longhorn Kenya Limited	0.03	0.21	0.36	-0.07	0.04	0.11
15. Nation Media Group Limited	-0.01	0.21	0.11	0.21	0.07	0.12
16. Scangroup Limited	0.04	1.02	0.07	0.02	0.50	0.33
17. Standard Group Limited	0.12	0.10	0.06	0.00	0.18	0.09
18. TPS Eastern Africa Limited (Serena Hotels)	0.08	0.70	0.10	0.03	0.20	0.22
19. ARM Cement Limited	0.91	0.36	0.24	0.31	0.10	0.39
20. Bamburi Cement Company Limited	0.14	0.04	0.07	0.21	0.63	0.22
21. Crown Paints Kenya Limited	-0.05	0.06	0.12	0.02	0.30	0.09
22. East African Cables Limited	0.16	0.28	0.11	0.25	0.09	0.18
23. East African Portland Cement Company	0.33	0.00	0.12	0.04	0.14	0.13
24. Kenol Kobil Limited	0.06	0.03	2.24	-0.67	-0.14	0.31
25. Kenya Electricity Generating Company	0.01	0.39	0.07	0.01	0.16	0.13
26. The Kenya Power & Lighting Co. Limited	0.18	0.20	0.43	0.11	0.32	0.25
27. Total Kenya Limited	1.17	-0.04	0.16	-0.06	0.21	0.29
28. Boc Kenya Limited	-0.03	0.02	-0.10	0.10	0.32	0.06
29. British American Tobacco Kenya Limited	0.02	0.05	0.24	0.10	0.12	0.11
30. Carbacid Investments Limited	0.14	0.10	0.15	0.16	0.10	0.13
31. East African Breweries Limited	0.06	0.11	0.30	0.10	0.07	0.13
32. Eveready East Africa Limited	0.19	0.20	-0.15	0.13	-0.18	0.04
33. Mumias Sugar Company Limited	0.23	0.03	0.27	0.19	-0.01	0.14
34. Unga Group Limited	0.17	-0.09	0.13	0.12	0.30	0.13
35. Accesskenya Group	0.49	0.18	-0.12	-0.06	0.22	0.14
36. Safaricom	0.23	0.14	0.09	0.07	0.06	0.12
Yearly Averages	0.15	0.21	0.18	0.06	0.15	

Source: Research Findings

APPENDIX III: LEVERAGE (TOTAL DEBT / ASSETS RATIO)

Company	2009	2010	2011	2012	2013	Mean
1. Eaagads Limited	0.23	0.21	0.21	0.15	0.12	0.19
2. Kakuzi Limited	0.20	0.19	0.19	0.17	0.18	0.20
3. Kapchorua Tea Company Limited	0.23	0.18	0.20	0.19	0.81	0.31
4. Limuru Tea Company Limited	0.14	0.18	0.19	0.21	0.15	0.18
5. Rea Vipingo Plantations Limited	0.15	0.16	0.17	0.17	0.17	0.16
6. Sasini Tea And Coffee Limited	0.24	0.23	0.22	0.21	0.21	0.23
7. Williamson Tea Kenya Limited	0.17	0.17	0.18	0.18	0.18	0.18
8. Car & General (Kenya) Limited	0.07	0.07	0.10	0.11	0.09	0.09
9. CMC Holdings Limited	0.24	0.19	0.20	0.32	0.26	0.23
10. Marshalls (EA) Limited	0.23	0.38	0.00	0.01	0.02	0.17
11. Sameer Africa Limited	0.12	0.15	0.14	0.14	0.16	0.14
12. Express Kenya Limited	0.30	0.30	0.26	0.27	0.25	0.28
13. Kenya Airways Limited	0.49	0.45	0.42	0.40	0.44	0.45
14. Longhorn Kenya Limited	0.00	0.04	0.01	0.01	0.00	0.01
15. Nation Media Group Limited	0.01	0.00	0.02	0.01	0.01	0.01
16. Scangroup Limited	0.00	0.02	0.04	0.04	0.03	0.02
17. Standard Group Limited	0.30	0.22	0.19	0.16	0.17	0.22
18. TPS Eastern Africa Limited (Serena Hotels)	0.28	0.23	0.26	0.26	0.18	0.25
19. ARM Cement Limited	0.38	0.51	0.49	0.49	0.48	0.45
20. Bamburi Cement Company Limited	0.19	0.13	0.12	0.12	0.08	0.14
21. Crown Paints Kenya Limited	0.07	0.08	0.07	0.07	0.09	0.07
22. East African Cables Limited	0.08	0.04	0.06	0.08	0.05	0.08
23. East African Portland Cement Company	0.37	0.37	0.42	0.50	0.35	0.41
24. Kenol Kobil Limited	0.01	0.01	0.02	0.03	0.53	0.10
25. Kenya Electricity Generating Company (Kengen)	0.36	0.49	0.50	0.48	0.39	0.42
26. The Kenya Power & Lighting Co. Limited	0.16	0.19	0.20	0.19	0.23	0.19
27. Total Kenya Limited	0.13	0.12	0.09	0.03	0.03	0.06
28. Boc Kenya Limited	0.23	0.24	0.28	0.26	0.21	0.24
29. British American Tobacco Kenya Limited	0.19	0.14	0.08	0.05	0.09	0.11
30. Carbacid Investments Limited	0.10	0.10	0.13	0.10	0.09	0.11
31. East African Breweries Limited	0.00	0.00	0.10	0.48	0.42	0.17
32. Eveready East Africa Limited	0.07	0.10	0.08	0.09	0.11	0.09
33. Mumias Sugar Company Limited	0.21	0.23	0.25	0.22	0.20	0.20
34. Unga Group Limited	0.06	0.07	0.06	0.07	0.08	0.07
35. Accesskenya Group	0.25	0.21	0.27	0.19	0.19	0.18
36. Safaricom	0.12	0.16	0.13	0.16	0.16	0.14
Yearly Averages	0.18	0.18	0.18	0.18	0.20	

Source: Research Findings

APPENDIX IV: ROE (Return on Equity)

Company	2008	2009	2010	2011	2012	2013	Mean
1. Eaagads Limited	0.15	0.06	0.15	0.27	0.05	-0.15	0.09
2. Kakuzi Limited	0.13	0.21	0.18	0.23	0.15	0.06	0.16
3. Kapchorua Tea Company Limited	-0.11	0.10	0.17	0.19	0.07	0.44	0.14
4. Limuru Tea Company Limited	0.23	0.48	0.63	0.27	0.42	0.05	0.35
5. Rea Vipingo Plantations Limited	0.19	0.15	0.07	0.32	0.22	0.21	0.19
6. Sasini Tea And Coffee Limited	0.19	0.10	0.16	0.07	-0.02	0.01	0.08
7. Williamson Tea Kenya Limited	-0.04	0.07	0.26	-0.08	0.20	0.12	0.09
8. Car & General (Kenya) Limited	0.19	0.15	0.15	0.15	0.12	0.15	0.15
9. CMC Holdings Limited	0.19	0.10	0.07	-0.04	0.02	0.02	0.06
10. Marshalls (EA) Limited	-0.70	-0.25	-2.60	0.45	-0.42	-0.39	-0.65
11. Sameer Africa Limited	0.11	0.11	0.04	0.07	0.09	0.15	0.09
12. Express Kenya Limited	-0.10	0.04	-0.07	-1.48	0.07	0.00	-0.26
13. Kenya Airways Limited	0.15	-0.24	0.10	0.16	0.07	-0.19	0.01
14. Longhorn Kenya Limited	0.26	0.07	0.07	0.32	-0.08	0.24	0.15
15. Nation Media Group Limited	0.30	0.24	0.29	0.20	0.35	0.31	0.28
16. Scangroup Limited	0.15	0.17	0.18	0.21	0.15	0.11	0.16
17. Standard Group Limited	0.39	0.27	0.23	0.10	0.41	0.09	0.25
18. TPS Eastern Africa Limited (Serena Hotels)	0.06	0.09	0.07	0.08	0.06	0.07	0.07
19. ARM Cement Limited	0.24	0.16	0.22	0.19	0.18	0.16	0.19
20. Bamburi Cement Company Limited	0.21	0.33	0.25	0.24	0.16	0.12	0.22
21. Crown Paints Kenya Limited	0.04	0.10	0.10	0.12	0.11	0.16	0.11
22. East African Cables Limited	0.40	0.20	0.10	0.17	0.22	0.13	0.20
23. East African Portland Cement Company	0.13	0.30	-0.05	0.00	-0.17	0.25	0.08
24. Kenol Kobil Limited	0.11	0.13	0.17	0.28	-0.97	0.84	0.09
25. Kenya Electricity Generating Company (Kengen)	0.09	0.03	0.05	0.03	0.04	0.07	0.05
26. The Kenya Power & Lighting Co. Limited	0.07	0.12	0.13	0.11	0.11	0.09	0.11
27. Total Kenya Limited	0.14	0.05	0.10	-0.01	-0.01	0.09	0.06
28. Boc Kenya Limited	0.14	0.10	0.05	0.11	0.14	0.10	0.11
29. British American Tobacco Kenya Limited	0.35	0.32	0.35	0.48	0.46	0.49	0.41
30. Carbacid Investments Limited	0.16	0.22	0.24	0.21	0.24	0.25	0.22
31. East African Breweries Limited	0.43	0.37	0.37	0.34	1.28	0.27	0.51
32. Eveready East Africa Limited	0.05	0.07	0.02	-0.44	0.20	0.12	0.00
33. Mumias Sugar Company Limited	0.13	0.16	0.14	0.13	0.13	-0.13	0.10
34. Unga Group Limited	0.13	0.06	0.07	0.12	0.09	0.11	0.10
35. Accesskenya Group	0.20	0.13	0.01	0.10	0.12	0.12	0.11
36. Safaricom	0.32	0.21	0.24	0.19	0.17	0.22	0.23
Yearly Averages	0.14	0.14	0.07	0.11	0.12	0.13	

Source: Research Findings

APPENDIX V: VALUE OF FIRMS (KES)

Company	Mean Value (2009 to 2013)	LN(Mean Value)
1. Eaagads Limited	466,946,437.50	19.96
2. Kakuzi Limited	1,217,650,000.00	20.92
3. Kapchorua Tea Company Limited	436,840,000.00	19.90
4. Limuru Tea Company Limited	395,611,500.00	19.80
5. Rea Vipingo Plantations Limited	1,047,500,000.00	20.77
6. Sasini Tea And Coffee Limited	2,409,786,450.00	21.60
7. Williamson Tea Kenya Limited	1,503,897,960.00	21.13
8. Car & General (Kenya) Limited	1,503,900,000.00	21.13
9. CMC Holdings Limited	69,640,139.59	18.06
10. Marshalls (EA) Limited	234,967,455.45	19.27
11. Sameer Africa Limited	1,585,280,543.17	21.18
12. Express Kenya Limited	235,577,028.08	19.28
13. Kenya Airways Limited	16,808,389,717.13	23.55
14. Longhorn Kenya Limited	505,050,000.00	20.04
15. Nation Media Group Limited	25,344,685,146.67	23.96
16. Scangroup Limited	13,932,496,006.33	23.36
17. Standard Group Limited	2,596,706,034.37	21.68
18. TPS Eastern Africa Limited (Serena Hotels)	7,140,528,983.17	22.69
19. ARM Cement Limited	20,058,637,500.00	23.72
20. Bamburi Cement Company Limited	379,184,625.00	19.75
21. Crown Paints Kenya Limited	884,819,375.00	20.60
22. East African Cables Limited	3,763,125,050.00	22.05
23. East African Portland Cement Company	4,995,000,000.00	22.33
24. Kenol Kobil Limited	14,619,494,586.67	23.41
25. Kenya Electricity Generating Company	33,451,733,489.00	24.23
26. The Kenya Power & Lighting Co. Limited	28,198,698,800.00	24.06
27. Total Kenya Limited	4,170,385,405.67	22.15
28. BOC Kenya Limited	2,494,318.75	14.73
29. British American Tobacco Kenya Limited	31,966,666,666.67	24.19
30. Carbacid Investments Limited	3,744,436,423.83	22.04
31. East African Breweries Limited	154,991,773,776.00	25.77
32. Eveready East Africa Limited	567,000,000.00	20.16
33. Mumias Sugar Company Limited	12,495,000,000.00	23.25
34. Unga Group Limited	2,630,883,302.00	21.69
35. Accesskenya Group	2,004,354,000.00	21.42
36. Safaricom	167,666,666,666.67	25.85

Source: Research Findings

APPENDIX VI: ANNUAL AVERAGES OF VALUE OF FIRMS

Year	Annual Averages of firm value	Natural Log (Annual Average of firm Value)
2008	14,341,861,690.74	23.39
2009	11,546,770,819.98	23.17
2010	17,522,817,495.56	23.59
2011	14,385,236,065.20	23.39
2012	15,492,836,508.06	23.46
2013	20,714,778,651.57	23.75

Source: Research Findings

APPENDIX VII: AGE OF FIRMS (YRS)

Company	2008	2009	2010	2011	2012	2013	Mean	LN (Mean)
1. Eaagads Limited	62.00	63.00	64.00	65.00	66.00	67.00	64.50	4.1667
2. Kakuzi Limited	81.00	82.00	83.00	84.00	85.00	86.00	83.50	4.4248
3. Kapchorua Tea Company	139.00	140.00	141.00	142.00	143.00	144.00	141.50	4.9523
4. Limuru Tea Company Limited	83.00	84.00	85.00	86.00	87.00	88.00	85.50	4.4485
5. Rea Vipingo Plantations	13.00	14.00	15.00	16.00	17.00	18.00	15.50	2.7408
6. Sasini Tea And Coffee Limited	56.00	57.00	58.00	59.00	60.00	61.00	58.50	4.0690
7. Williamson Tea Kenya Limited	139.00	140.00	141.00	142.00	143.00	144.00	141.50	4.9523
8. Car & General (Kenya) Limited	72.00	73.00	74.00	75.00	76.00	77.00	74.50	4.3108
9. CMC Holdings Limited	60.00	61.00	62.00	63.00	64.00	65.00	62.50	4.1352
10. Marshalls (EA) Limited	61.00	62.00	63.00	64.00	65.00	66.00	63.50	4.1510
11. Sameer Africa Limited	39.00	40.00	41.00	42.00	43.00	44.00	41.50	3.7257
12. Express Kenya Limited	90.00	91.00	92.00	93.00	94.00	95.00	92.50	4.5272
13. Kenya Airways Limited	31.00	32.00	33.00	34.00	35.00	36.00	33.50	3.5115
14. Longhorn Kenya Limited	15.00	16.00	17.00	18.00	19.00	20.00	17.50	2.8622
15. Nation Media Group Limited	49.00	50.00	51.00	52.00	53.00	54.00	51.50	3.9416
16. Scan group Limited	26.00	27.00	28.00	29.00	30.00	31.00	28.50	3.3499
17. Standard Group Limited	31.00	32.00	33.00	34.00	35.00	36.00	33.50	3.5115
18. TPS Eastern Africa Limited	38.00	39.00	40.00	41.00	42.00	43.00	40.50	3.7013
19. ARM Cement Limited	61.00	62.00	63.00	64.00	65.00	66.00	63.50	4.1510
20. Bamburi Cement Company	57.00	58.00	59.00	60.00	61.00	62.00	59.50	4.0860
21. Crown Paints Kenya Limited	50.00	51.00	52.00	53.00	54.00	55.00	52.50	3.9608
22. East African Cables Limited	42.00	43.00	44.00	45.00	46.00	47.00	44.50	3.7955
23. East African Portland Cement	75.00	76.00	77.00	78.00	79.00	80.00	77.50	4.3503
24. Kenol Kobil Limited	49.00	50.00	51.00	52.00	53.00	54.00	51.50	3.9416
25. Kenya Electricity Generating Company (Kengen)	54.00	55.00	56.00	57.00	58.00	59.00	56.50	4.0342
26. The Kenya Power & Lighting	86.00	87.00	88.00	90.00	90.00	91.00	88.67	4.4849
27. Total Kenya Limited	53.00	54.00	55.00	56.00	57.00	58.00	55.50	4.0164
28. Boc Kenya Limited	33.00	34.00	35.00	36.00	37.00	38.00	35.50	3.5695
29. British American Tobacco	32.00	33.00	34.00	35.00	36.00	37.00	34.50	3.5410
30. Carbacid Investments Limited	47.00	48.00	49.00	50.00	51.00	52.00	49.50	3.9020
31. East African Breweries	86.00	87.00	88.00	89.00	90.00	91.00	88.50	4.4830
32. Eveready East Africa Limited	41.00	42.00	43.00	44.00	45.00	46.00	43.50	3.7728
33. Mumias Sugar Company	37.00	38.00	39.00	40.00	41.00	42.00	39.50	3.6763
34. Unga Group Limited	81.00	82.00	83.00	84.00	84.00	86.00	83.33	4.4228
35. Accesskenya Group	13.00	14.00	15.00	16.00	17.00	18.00	15.50	2.7408
36. Safaricom	11.00	12.00	13.00	14.00	15.00	16.00	13.50	2.6027
Yearly Averages	55.36	56.36	57.36	58.39	59.33	60.36		
In(Average Age of the firm)	4.01	4.03	4.05	4.07	4.08	4.10		

Source: Research Findings

APPENDIX VIII: COEFFICIENT CORRELATIONS

Coefficient Correlations^a

Model		Ln (Age of firm)	Return on Equity	Leverage	Ln (Value of firm)	
1	Correlations	Ln (Age of firm)	1.000	.032	-.226	.118
		Return on Equity	.032	1.000	.194	-.382
		Leverage	-.226	.194	1.000	-.129
		Ln (Value of firm)	.118	-.382	-.129	1.000
	Covariances	Ln (Age of firm)	.001	.000	-.002	4.412E-5
		Return on Equity	.000	.015	.004	.000
		Leverage	-.002	.004	.034	.000
		Ln (Value of firm)	4.412E-5	.000	.000	.000

a. Dependent Variable: Asset Growth Rate

Source: Research Findings

APPENDIX IX: COLLINEARITY DIAGNOSTICS

Collinearity Diagnostics^a

Model	Dimension	Eigen value	Condition Index	Variance Proportions				
				(Constant)	Leverage	Return on Equity	Ln (Value of firm)	Ln (Age of firm)
1	1	4.107	1.000	.00	.01	.01	.00	.00
	2	.682	2.454	.00	.04	.71	.00	.00
	3	.192	4.628	.00	.92	.13	.00	.01
	4	.016	16.075	.02	.01	.07	.18	.72
	5	.003	34.392	.98	.02	.08	.82	.27

a. Dependent Variable: Asset Growth Rate

Source: Research Findings