THE RELATIONSHIP BETWEEN CAPITAL STRUCTURE AND PROFITABILITY OF CONSTRUCTION AND ALLIED COMPANIES LISTED AT THE NAIROBI SECURITIES EXCHANGE

BY

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DECLARATION

STUDENT

I, the undersigned, declare that this Research is my own original work and has not been submitted to any other university or institution for academic credit.

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DEDICATION

This paper is dedicated to my parents Mr. Charles Mackay Murakaru & Mrs. Lucy Murakaru my wife Evelyn Wanjiku and my siblings Francis, Fredrick, Christine and Anne who have been a source of inspiration and support both financially and morally during the course of my studies.

ABSTRACT

The objective of this research was to determine the effects of Capital structure on the profitability of the listed construction and allied companies in Kenya. Theoretically it is assumed that the value of a company depends upon the future operating income generated by its assets and it does not matter what capital structure a company uses to finance its operations. Multiple linear regression which included Return on equity as independent variable, total debt, short term debt and long term debt as dependent variables and size and growth as control variables. These variables were used to establish whether capital structure decisions affect the profitability of the listed construction and allied companies in Kenya. Secondary data was collected from 2003 to 2012 and analyzed with the aid of statistical tools. Descriptive study research design was used to determine the frequency of occurrence or the extent to which variables were related. The population used in this study was five construction and allied companies which are all listed in the NSE .The study used mainly secondary data from the NSE hand book, data relating to the research question was obtained from the audited financial statements of the respective companies. The correlation coefficient and coefficient of determination were used to test whether the expected values of a quantitative variable within several pre-defined groups differed from each other. The results obtained from the regression equations found out that there was significantly positive relationship between Total debt, Long term debt, Short term debt and profitability which implies that an increase in debt position is associated with an increase in profitability hence firm's performance, The study further found out that profitability increased with the control variables which were both size and sales growth From the findings outlined above, The study recommends that companies, should consider borrowing for funds and putting such funds to economical value so that they can consequently reap from such projects and increase their profits. Secondly the firm management should take in to account their size and growths as this also turned to be critical factors in determining profitability.

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LIST OF ABBREVIATIONS

CS	Capital Structure
DA	Total debt/total assets
D/E	Debt /Equity
DER	Debt Equity ratio
EBIT	Earning before interest and tax
GDP	Gross Domestic Product
NPV	Net Present Value
MFI	Micro Finance Institutions
M&M	Modigliani and Miller
NSE	Nairobi Securities Exchange
ROA	Return on Asset
ROE	Return on Equity
SDA:	Short-term debt/total assets.
LDA:	Long-term debt/total assets.

CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

In finance, capital structure refers to the way a corporation finance its assets through some combination of equity or debt. Equity capital refers to funds put up and owned by the shareholders, this kind of capital is mainly of two types, contributed capital; which are funds that were originally invested in the business, and retained earnings which represent profits from past years that have been reserved by the company.

The Modigliani- Miller theorem, proposed by Modigliani and Miller (1958) forms the basis for modern thinking on capital structure though it is generally viewed as a purely theoretical result since it disregards many important factors in the capital structure decision. The theorem states that, in a perfect market, how a firm is financed is irrelevant to its value. This result provides the base with which to examine real world reasons why capital structure is relevant.

The study of capital structure attempts to explain the mix of securities and financing sources used by corporations to finance real investment. Most of the researches on capital structure have focused on the proportions of debt vs. equity observed on the right-hand sides of corporations' statement of financial position. There is no universal theory of the debt-equity choice, and no reason to expect one. There are several useful conditional

theories, For example the tradeoff theory , says that firms seek debt levels that balance the tax advantages of additional debt against the costs of possible financial distress.

The tradeoff model predicts moderate borrowing by tax-paying firms, while the pecking order theory states that the firm will borrow, rather than issue equity, when internal cash flow is not sufficient to fund capital expenditures, hence the amount of debt will reflect the firm's cumulative need for external funds. The free cash flow theory states that dangerously high debt levels will increase value, despite the threat of financial distress, when a firm's operating cash flow significantly exceeds its profitable investment opportunities. According to Jensen Michael (1986) the free cash flow theory is designed for mature firms that are prone to over invest.

There is another possibility: perhaps financing doesn't matter. Modigliani and Miller (1958) proved that the choice between debt and equity financing has no material effects on the value of the firm or on the cost or availability of capital. They assumed perfect and frictionless capital markets, in which financial innovation would quickly extinguish any deviation from their predicted equilibrium. The logic of the Modigliani and Miller (1958) results is now widely accepted. Nevertheless, financing clearly can matter. The chief reasons why it matters include taxes, differences in information and agency costs. Theories of optimal capital structure differ in their relative emphases on, or interpretations of, these factors. The tradeoff theory emphasizes taxes, the pecking order theory emphasizes differences in information, and the free cash flow theory emphasizes on agency costs.

1.1.1 Capital Structure

According to Copeland and Weston (1988) Capital can be defined as goods which are, directly or indirectly, instruments of production; the theory of capital is thus primarily a theory of material instruments of production. Companies are in constant control of capital through engagement of Chief Executive officers and finance managers. Capital it is the primary means by which wealth of companies is created. The fact that success of companies solely lays on its capital base it is therefore important to utilize capital goods in plans and consistency of such plans within the economic system as a whole. On the other hand 'Structure' can be defined as a complex of relationships sufficiently stable in varying circumstances to display the firm outline of a clear and distinguishable pattern. Structural stability of such a complex requires a focus on external changes since the more violent the impact of such change, the less the pattern is likely to last. Capital structure or capitalisation of the firm is the permanent financing represented by long term debt, preferred stock and shareholders equity, Copeland and Weston (1988) . It is further contrasted from financial structure which includes short term debt in addition to the components of capital structure.

1.1.2 Profitability

According to Don Hofstrand (1999) profitability is measured with income and expenses, Income are money generated from the activities of a firm, and expenses are the cost of resources associated with activities of a firm. Profitability is the most important measure of the success of a company, a firm that is not profitable can barely survive. Conversely, a

business that is highly profitable has an ability of rewarding its owners with return on their investment through dividends. Increasing profitability is one of the most important tasks of business leaders, Chief Executive Officers and Finance Managers they are obliged in constantly looking for ways through which they can change their companies so as to improve profitability. These potential changes can be analyzed through a pro forma statement of comprehensive income or a through a Partial Budget which allows assessment of profitability of a small or incremental change in the business before it is implemented. By use of a statement of comprehensive income it is possible to derive financial ratios that can form a summarized analysis of profitability ratios, this ratios are margin ratios and returns ratios.

Margin ratios represent the firm's ability to translate sales into profits at various stages of measurement, where as returns ratios represent the firm's ability to measure the overall efficiency of the firm in generating returns for its shareholders. Margin ratios consist mainly of Gross profit margin, Operating profit margin, and Net profit margin. Gross profit margin looks at cost of goods sold as a percentage of sales, this ratio looks at how well a company is able to control the cost of its inventory and the manufacturing of its products and subsequently pass these costs to the consumers. The operating profit margin looks at EBIT as a percentage of sales; this ratio is a measure of overall operating efficiency, incorporating all company expenses. The net profit margin measures profitability after consideration of all expenses including taxes, interest, and depreciation. To measure return on investments, ratios that are commonly utilized are ROA which measures the efficiency with which the company is managing its investment in assets and

using them to generate profit and ROE which measures the return on funds that investors have put into the company, Rosemary peavler (2008).

1.1.3 Relationship between Capital structure and Profitability

The relationship between capital structure and profitability is one that has received considerable attention in the finance literature. Capital structure decision is vital since the profitability of an enterprise is directly affected by such decision. Proper care and attention need to be given while determining capital structure decision. In the statement of affairs of an enterprise, the overall position of the enterprise regarding all kinds of assets, liabilities are shown; Capital is a vital part of that statement. A cautious attention has to be paid as far as the optimum capital structure is concerned with unplanned capital structure, companies may fail to economize the use their funds. Consequently, it is being increasingly realized that a company should plan its capital structure to maximize the use of funds and to be able to adapt more easily to the changing conditions. It is therefore important that as the modern companies embrace themselves in conducting their business in a highly complex and competitive business environment, they should consider what impact capital structure decision will have on the overall profitability of their respective companies.

1.1.4 Construction and Allied companies listed at NSE

Over the years the Construction and allied companies have continued to play a critical role in Kenya's economic growth. Kenyan construction industry has experienced exponential growth due to government and private developers increase in investments in

both infrastructure and housing. The construction boom is still expected to grow mainly due to the huge deficit experienced in infrastructure which includes rail, roads and ports. The construction sector accounts for 5 per cent of Kenya's GDP and employs at least one million people. Secondly, the rapid growth in population, has tremendously led to a soaring demand for housing in most parts of the country, which also presents a major opportunity for growth as private developers rush to keep up with this demand. Despite the recent slowdown in the world economy, the Kenyan construction sector has remained buoyant as reflected in the increased investment in both commercial and residential buildings over the past few years waithaka (2011).

According to data from the Kenya National Bureau of Statistics, the construction sector grew by 10.7 per cent in 2011 boosted by massive road construction projects and increased activity in the real estate sector. Growth in the construction industry is mirrored in cement consumption which has been rising significantly over the last few years. Going forward, the construction and allied companies sector is still expected to grow further due to expected huge infrastructural projects such as Lamu port construction, Nairobi modern transport system, as well as rehabilitation of airports and roads across the country

1.2 Research Problem

One determinant of capital structure that has been debated for many years and still represents one of the main unresolved issues in the corporate finance literature is the impact of capital structure on profitability. Many theoretical studies and much empirical

research have addressed these issues, but there is not yet a fully supported and unanimously accepted theory.

Currently, Kenya has five construction and allied companies listed in the NSE which consist of Athi river mining, Bamburi cement, Crown Berger limited, East Africa Cables limited and East Africa Portland Cement Limited According to Economic survey of 2012; Kenya National of bureau statistics noted that Loans advanced to the construction and allied companies in Kenya by commercial banks increased by 55.8 per cent from

KSh 32.6billion in 2011, to KSh 50.8billion in 2012, the statistics also showed that Cement consumption rose by 10.6 per cent from 3.1 million tonnes in 2011 to 3.4 million tonnes in 2012 . Due to huge growth experienced in construction industry, the major players in this sector have resolved in to different sources of financing their operations and this has either affected them positively or negatively, this research will seek to answer the question whether the capital structure decisions taken by the finance managers has had an overall impact on the individual profitability of the above companies.

Studies on the impact of capital structure on profitability have been carried both at internationally and locally level. For example, Taub (1975) carried out a research on determinants of capital structure decision between government owned and private firms in Pakistan. He found a significantly positive association between debt and profitability. Kester (1986) carried out a study comparing the capital structure of manufacturers in the U. S. and Japan. He responded to the purported competitive advantage of Japanese business through their greater use of leverage and found a significantly negative relation between profitability and debt/asset ratios. Rajan & Zingalas (1995) analyzed the

financing decisions of public firms in the major industrialized countries, at an aggregate level; they found out that firm leverage is fairly similar across the G-7 countries; the study confirmed a significantly negative correlation between profitability and leverage in their work.

Locally many researchers have reviewed various aspects of capital structure in the Kenyan context.Gitau (2009) carried out a research on effects of changes in capital structure on performance of companies quoted in the NSE, his sample was drawn from companies that had traded consistently from 2003 to 2007, he found out that; there was significantly positive relationship between short term debt and profitability, he noted that short term debt tends to be less expensive and increasing it with relatively low interest rate will lead to an increase in profits levels and hence performance. the study further concluded that profitability increases with the control variables , that is , size, and sales growth the study recommended that owing to the less cost incurred in obtaining short term loans than long term loans , companies should go for short term loans.

Arimi (2010) In his study on the relationship between capital structure and financial performance of firms listed under industrial and Allied sector at the Nairobi stock exchange found out that there existed a negative correlation between debt equity ratio and ROE, thus an increase in debt equity ratio caused a decrease in ROE. The study concluded that there was a negative relationship between debt equity ratio and ROE, and that the findings were similar with the traditional capital structure

From the foregoing discussions based on the available empirical literature, it is crystal clear that results from investigations into the relationship between capital structure and profitability are inconclusive and requires more empirical work. This study will therefore re-examine the relationship between capital structure and profitability in the construction and allied companies listed in the NSE. Therefore the study answers the following question is there a relationship between capital structure and profitability.

1.3 Objective of the Study

To determine the relationship between capital structure and profitability of the construction and Allied companies listed at the NSE.

1.4 Value of the Study

The study will be of importance to the academicians as it will increase their knowledge in research about the relationship between capital structure and profitability and form a basis upon which further researches can be done.

The government and policymakers may use the results of the research to formulate polices that will create an appropriate environment in order to enhance the operations in the construction sector

The investors may use the results of the research to enable them in providing information about the impact of capital structure on profitability in the construction and allied companies listed at NSE in Kenya and aid them in making viable investment decisions.

The study will be of importance to managers of both listed and unlisted companies who will use the information to formulate policies on capital structure decisions.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter comprised of information from other researchers who have carried out their research in the same field of study. The areas covered here are Theoretical review, Factors affecting firm profitability, and Empirical evidence on the relationship between capital structure and profitability.

2.2 Theoretical Reviews

2.2.1 Capital Structure Irrelevance Theory

Modigliani and Miller (1958) studied capital-structure theory intensely. From their analysis, they developed the capital-structure irrelevance proposition. Essentially, they hypothesized that in perfect markets, it does not matter what capital structure a company uses to finance its operations. They theorized that the market value of a firm is determined by its earning power and by the risk of its underlying assets, and that its value is independent of the way it chooses to finance its investments or distribute dividends. The basic M&M proposition is based on key assumptions such as, No taxes, No transaction costs, No bankruptcy costs, No growth, All earnings were paid out as dividends and all individuals in the market were homogenous .This paper formed a basis for examining real world reasons why capital structure is relevant .The other reasons include :bankruptcy

cost, taxes, and information asymmetry .By relaxing the assumptions made in MM(1958) paper, several theories came up attempting to address the imperfections .

2.2.2 The Trade off Theory

According to the tradeoff theory a value maximizing firm will pursue an optimal capital structure by considering the marginal costs and benefits of each additional unit of financing and then choosing the form of financing that equates these marginal costs and benefits.

The tradeoff theory views managers as trading off the benefits from debt financing against the various costs of debt. The marginal agency cost of debt is regarded as an increasing function of debt in capital structure .Therefore, a manager acting as a shareholder value maximizer should borrow up to the point where the marginal value of the benefits from debt financing including interest tax shields is equal to the marginal cost of debt including agency and financial distress costs

According to trade off theory, there are advantages and drawbacks to the use of debt and firms select an optimal capital structure that balances these at margins (Musili 2006).initially, the theory was restricted to small number of relevant factors, most notably the tax advantage of debt versus its bankruptcy costs, but over time it was extended to include several others factors that include, corporate governance, benefits of debt in reducing over investment and empire building, versus its incentives to engage in excessive risk taking and gambling for resurrection (Musili 2006).

2.2.3 Pecking Order Theory

The pecking order hypothesis is based principally on the argument that asymmetric information creates a hierarchy of costs in the use of external financing which is broadly common to all firms .New instruments are financed first by retentions , then by low-risk debt followed by hybrids like convertibles , and equities only as a last resort .At each point in time there is an optimal financing decisions which depends critically on net cash flows as the factor which determines available funds .The pecking order theory suggests that there is no well defined optimal capital structure , instead the debt ratio is the result of the hierarchical financing over time.

The existence of information asymmetries between the firm and likely finance providers causes the relative costs of finance to vary between the different sources of finance .An internal source of finance where the funds provider is the firm will have more information about the firm than new equity holders; thus new equity holders will expect a higher rate on their investments.

Informational asymmetries between insiders and outsiders introduce incentive problems in financial relationship, making financing and investing dependent upon each other. The pecking order states that firms prefer internal financing and if external financing is required they issue the safest security first.

Managers will choose to issue debt when investors undervalue the firm recognizing this policy of managers; investors will perceive an equity issue as bad news, making the cost of issuing equity higher. If the firm can use internal financing sources or issue low risk

debt, the cost of asymmetric information can be minimized. if the manager has better information than investors, it is better to issue debt than equity. The more solid explanation for the hierarchical financing preferences of firms has been based on asymmetric information problems .Myers and Majluf (1984) argued that better informed investors would be willing to pay more for new securities than would less informed investors.

Thus, firms will prefer to obtain funds from the better informed investors. There fore firms would prefer retained earnings to external financing. The main prediction of the theories about asymmetric information problems is that firms are more sensitive about their provider of funds when the perceived likelihood of an asymmetric information advantage is high, or when the difference in valuation due to asymmetries of information is high The pecking order theory has no well defined target debt – equity mix. it is a dynamic theory and the observed capital structure of each firm will depend on its history. For example, an unusually profitable firm in an industry with few investment opportunities will end up with an unusually low debt to equity ratio. An unprofitable firm in the same industry will end up with a high debt ratio. Myers and Majluf (1984) suggested that management strongly favored internal generation as a source of new funds even to the exclusion of external funds except for occasional unavoidable “bulges” in need for funds.

2.2.4 Agency Cost Hypothesis

There exist three types of agency cost that explain the relevance of capital structure. Firstly asset substitution effect which emphasizes that as debt / equity ratio increases, management develops an increased incentive to undertake risky (even negative NPV) projects because if the project was successful; shareholders would get all the upside where as if it was un successful, debt holders would get all the downside. If the project were undertaken therefore there was a chance of a firm value decreasing and a wealth being transferred from debt holders to share holders .Secondly there would be under investment problems where if debt was risky (e.g. in a growth company) the gain from the project would accrue to debt holders rather than to the shareholders.

Hence the management has an incentive to reject Positive NPV projects even though they had potential to increase firms value .Finally the agency cost arising from the free cash flows which argues that unless free cash flow is given back to investors, the management has an incentive to destroy firm value through empire building and perks, with cash that should have been paid back to share holders. Jensen and meckling (1976) concluded that increasing leverage would impose financial discipline on management in such circumstances." The problem" Jansen says is how to motivate managers to disgorge the cash rather than investing it below the cost of capital or wasting it in organizational in "efficiencies" He further argued that if that's the problem then may be debt is the answer since scheduled interest and principal payments are contractual obligations of the firm and debt forces the firm to pay out cash. Myers (1977), points out another agency cost of debt. He observes that when firms are likely to go bankrupt in the near future, equity holders

may have no incentive to contribute new capital even to invest in value increasing projects. The reason is that equity holders bear the entire cost of the investment, but the returns from the investment may be captured mainly by the debt holders. Thus the larger debt levels result in the rejection of more value increasing projects. This agency cost of debt yields conclusions about capital structure similar to those one of Jensen and meckling.

Another approach that involves manager investors' conflicts is taken by Williamson (1988). In his view the benefits of debt are the incentives provided to managers by the rules under which debt holders can take over the firm and liquidate the assets. The costs of debts are that the inflexibility of the rules can result in to liquidation of the assets when they are more valuable in the firms .Thus, Williamson concludes that assets that are more redeploy - able should be financed by debt Emanating from the foregoing discussion, higher leverage is considered an appropriate method to employ in order to mitigate conflicts between shareholders and managers concerning the type of investments to undertake

In Harris and Raviv (1990) and stulz (1990), argued that managers and investors disagree over an operating decision. In particular, in Harris and Raviv, managers are assumed to want always to continue the firm's current operations even if liquidation of the firm is preferred by investors. In stulz, the managers are assumed to want always to invest all available funds even if paying out cash is better for investors.

In both cases, it is assumed that the conflict cannot be resolved through contracts based on cash flow are poor. In stulz, as in Jensen (1996), debt payments reduce free cash flow. Capital structure is determined by trading off these benefits of debt against cost of debt. In Harris and Raviv, the assertion of control by investors through bankruptcy entails cost related to the production of information, used in the liquidation decisions, about the firm's prospects .The cost of debt in stult'z model is that debt payments may more than exhaust "free" cash, reducing the funds available for profitable investments.

The optimal capital structure in Harris and Raviv trades off improved liquidation decisions versus higher investigation costs. The optimal capital structure in stult'z is determined by trading off the benefit of debt in preventing investments in value decreasing projects against the cost of debt in preventing investment in value increasing projects.

2.3 Factors Influencing Profitability

Factors affecting the profitability and performance of a firm may be viewed in two categories: factors related to the "external environment" and factors related to the" internal environment."

2.3.1 Internal Environment Factors Influencing Profitability

Firstly, in the internal environment there is a long tradition, most often associated with Bain (1956) and is concerned with identifying properties of industries a large set of variables which include growth; concentration, capital intensity, and advertising intensity, among others . Secondly, to cap the economic model of firm profitability is the firm size.

This is most often interpreted as a source of organizational costs, Shepherd (1972), or X-inefficiencies Leibenstein, (1976). From a strategy perspective the size also may be an indicator of diversification, which by and large has been found to affect profitability of firms negatively according to Wernerfelt and Montgomery, (1988). Thirdly the organizational researchers have developed a wide variety of models of performance, To empirically validate that climate was indeed a firm-level construct, Drexler (1977) examined 1256 work groups representing 6996 individuals in 21 organizations to test the strength of the organizational climate construct at the organizational level rather than at a departmental or some sub-organizational level.

His Findings strongly support the use of organizational climate as a measure for firm or organizational level analysis. Simons and Mares, (1983) found out that some efforts have shown linkages between managerial practices and attributes or dimensions of organization climate and firm performance, According to Conant, Mowka, and Varadarajan (1990) there are Conflicting findings on the relationship between firm age and profitability. Production competencies allow the firm to manufacture a broad range of products, including specialty and high quality items; build a reputation in the Industry; and reduce operating costs, which act as key factors to achieve competitiveness,). However, most small firms experience problems due to inadequate product design and quality, and outdated machinery.

2.3.2 External Environment Factors Influencing Profitability

While there is a range of specific models, major determinants of firm-level profitability include the characteristic of the industry in which the firm competes, the firm's position relative to its competitors, and the quality or quantity of the firm's resources. originally perceived as the source of market power, market share and more specifically relative market share as viewed for this study serves as a proxy for some firm-specific relative competitive advantage resulting from learning effects and other firm specific assets, Shepherd, (1972). A study by Schmalensee (1985) shows that differences between industries as measured by average industry return on assets account for almost all the explained variance in business unit performance. There are also variables relating the firm to its competitors. The key member of this class is relative market share, a variable which has been widely used in strategy and is emphasized by Buzzell and Gale, (1987). Hansen and Wernerfelt (1989) came up with the model where organization climate is made up of environmental factors (sociological, political, economic, and technological),organizational factors (structure, systems, size and history), and people factors (skills, personalities and age).

2.4 Empirical Review

2.4.1 International Evidence

Modigliani and Miller (1958) theory of “capital structure irrelevance” argued that financial leverage does not affect the firm’s market value with assumptions related to

homogenous expectations, perfect capital markets and no taxes. Myers and Majluf (1984) found out firms which are profitable and generate high earnings are expected to use less debt capital comparing with equity than those that do not generate high earnings.

Brander & Lewis (1986) and Maksimovic (1988) provided the theoretical framework that links capital structure and market structure. According to Brander & Lewis (1986) firms in the oligopolistic market tend to follow the strategy of maximizing their output for improving profitability in favorable economic conditions. In unfavorable economic conditions, they take a cut in production and reduce their profitability. Hence, Shareholders enjoy increased wealth in good periods, but they tend to ignore decline in profitability in bad times as unfavorable consequences are passed on to lenders because of shareholders' limited liability status. Thus the oligopoly firms, in contrast to the firms in the competitive markets, would employ higher levels of debt to produce more when opportunities to earn high profits arise. The implied prediction of the output maximization hypothesis is that capital structure and market structure have positive relationship. One of the most important financial decisions facing companies is the choice between debt and equity capital (Glen & Pinto, 1994). This decision can effectively and efficiently be taken when managers are first of all aware of how capital structure influences firm profitability. This is because; this awareness would enable managers to know how profitable firms make their financing decisions in particular contexts to remain competitive. In the corporate finance literature, it is believed that this decision differs from one economy to another depending on country level characteristics. Sheel (1994) showed that all leverage determinants factors studied, excepting firm size, are significant to explain debt behavior

variations. Lalith, P.S (1999) investigated the capital structure of Srilankan companies and found that the use of long-term debt is relatively low in Srilankan companies.

The mean leverage in Sri Lanka is estimated as 13.5%, long term debt to equity ratio as 24% while the total debt to equity ratio is 104.1%. This evidence suggested that the use of debt financing in Sri Lanka is significantly low in comparison to G7 markets. Ooi (1999) argued out that profitable firms are more attractive to financial institutions as lending prospects. The reason is that, those firms are expected to have higher tax shields and low bankruptcy costs. Gleason, et al.,(2000) Using data from retailers in 14 European countries, which are grouped into 4 cultural clusters, found out that capital structures for retailers vary by cultural clusters. This result holds in the presence of control variables. Using both financial and operational measures of performance, it is shown that capital structure influences financial performance, although not exclusively. A negative relationship between capital structure and performance suggests that agency issues may lead to use of higher levels of debt in the capital structure than appropriate, thereby producing lower performance. Graham (2000) integrated under firm specific benefit functions estimated that the capitalized tax benefit of debt equals 9.7% of firm value. The typical firm could double tax benefits by issuing debt until the marginal tax benefit begins to decline It is inferred how aggressively a firm uses debt by observing the shape of its tax benefit function. Paradoxically, large, liquid, profitable firms with low expected distress costs use debt conservatively. Product market factors, growth options, low asset collateral, and planning for future expenditures lead to conservative debt usage.

Chianget al., (2002) results showed that profitability and capital structure are interrelated; the study sample included 35 companies listed in Hong Kong. The data for this research paper was collected from DataStream, an electronic financial database. The analysis of this paper showed that gearing is generally higher among contractors than developers Abor (2005) sought to investigate the relationship between capital structure and profitability of listed firms on the Ghana Stock Exchange and found out a significant positive relationship between the ratio of short-term debt to total assets and ROE and negative relationship between the ratio of long term debt to total assets and ROE. Conservative debt policy is persistent. Hennessy and Whited (2005) developed a dynamic trade off model with endogenous choice of leverage, distributions, and real investment in the presence of a graduated corporate income tax.

Individual taxes on interest and corporate distributions, financial distress costs, and equity flotation costs. The study explained several empirical findings which were inconsistent with the static tradeoff theory and showed that there was no target leverage ratio, firms can be savers or heavily levered, they observed that Leverage is path dependent, leverage decreased in lagged liquidity, and leverage varied negatively with an external finance weighted average. Using estimates of structural parameters, they found also that simulated model moments match data moments. Mendell, et al., (2006) investigated financing practices across firms in the forest products industry by studying the relationship between debt and taxes as hypothesized in finance theory. When he tested the theoretical relationship between taxes and capital structure for 20 publicly traded forest industry firms for the years 1994 - 2003, he found out there existed a negative relationship between

profitability and debt, a positive relationship between non debt tax shields and debt, and a negative relationship between firm size and debt.

Dimitris&Maria, (2007) investigated the relationship between capital structure, ownership structure and firm performance across different industries using a sample of French manufacturing firms. They found there was a negative relationship between past profitability and leverage and a positive relationship between current profitability and leverage. Raheman et al. (2007) found a significant capital structure effect on the profitability for non financial firms listed on Islamabad Stock Exchange. Gill, et al., (2011) sought to extend Abor's (2005) findings regarding the effect of capital structure on profitability by examining the effect of capital structure on profitability of the American service and manufacturing firms. His sample constituted 272 American firms listed on New York Stock Exchange for a period of 3 years from 2005 2007. The correlations and regression analyses were used to estimate the functions relating to profitability (measured by return on equity) with measures of capital structure. Empirical results showed a positive relationship between short term debt to total assets and profitability and between total debt to total assets and profitability in the service industry. The findings of this paper showed also a positive relationship between short term debt to total assets and profitability, long term debt to total assets and profitability and between total debt to total assets and profitability in the manufacturing industry.

2.4.2 Local Evidence

Kitaka (2001) while conducting a survey study on MFI in Kenya he observed that performance indicators like arrears rate, delinquent borrowers, quick ratios portfolio were at risk, and average number of active loans were commonly used by MFI . He concluded that there were a relationship between the financiers of the MFIs, and performance indicators.

The usefulness of a measure of performance may be affected by the objectives of a firm that could affect its choice on performance measure and the development of the stock and capital market .The most commonly used performance measures proxies are return on assets and return on equity .These accounting measures representing the financial ratios from the statement of financial position and statement of comprehensive income have been used by many researchers, some of this are Musili (2006) and Munene (2006).

Musili (2006), in his study of capital structure in Kenya Industrial firms, found that the return on assets is the most significant explanatory variable for actual debt ratios and that managers do avoid issuing undervalued securities by financing with internal equity and then with external claims that are least likely to be mis - priced .

The tradeoff theory argues that since less profitable firms provide low shareholders returns, greater leverage in these firms merely increases bankruptcy risk and the cost of borrowing, and will therefore lower shareholders returns still further. Further, he states that low shareholders returns will also limit equity issues and therefore, un profitable firms facing a positive NPV investment opportunity will avoid external finance in general and

leverage in particular .There will also be a demand side effect as the market will be reluctant to provide capital to such firms .Thus, this study confirmed a positive relationship between leverage and profitability.

Munene (2006) in his study of impact of capital structure on firms listed at the NSE concluded that there existed a weak positive relationship between capital structure and profitability of firms quoted at the NSE. Firms listed on the NSE relied more on external funding rather than the retained earnings .Therefore, he concluded that profitability remained a minor determinant of firm's capital structure.

Ondiek (2010), In his study on relationship between capital structure and financial performance of firms listed at the NSE found out there existed a significant positive relationship between Short term debt and ROE suggesting that profitable firms use more short term debt to finance their operations he concluded that capital structure of listed companies are heavily influenced by size and profitability. Apart from the above study which considered microfinance institutions and companies listed at the NSE, there is a conspicuous gap in the empirical research on relationship between capital structure and profitability in the corporate firms in Kenya.

2.5 Summary of Literature Review

Review of empirical studies show that different and inconclusive results have been obtained on the relationship between capital structure and profitability; hence there is a need to carry out further research especially at corporate setting. Some literature review have significantly shown that there exist a negative relationship between debt

equity ratio and ROE , while some show that there exist significant positive relationship between the ratio of short-term debt to total assets and ROE and negative relationship between the ratio of long term debt to total assets and ROE This research aims at extending this findings by examining out the impact of capital structure on profitability in the construction and allied companies in Kenya.This sector has tremendously grown over the years mainly due to government intervention through its development plans of initiating huge infrastructural projects such as Thika Road Superhighway, Lamu port construction, and rehabilitation of modern transport system across the country. This research will aim to find out whether different sources of financing sought by major players in this sector between the years 2002 and 2012 to finance their operations had an overall effect on their profitability.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the methods that were employed in providing answers to the research objectives as stated in chapter one. The following aspects of research methodology are discussed; research design, population, sample, data collection and data analysis.

3.2 Research Design

The research design was descriptive survey approach; descriptive survey is a process of collecting data from members of a population in order to determine the current status of the subject under study with respect to one or more variables. The major emphasis of a descriptive study was to determine the frequency of occurrence or the extent to which variables are related. This design was found suitable because the study required an accurate examination of the effects of capital structure on profitability.

3.3 Population

The population used in this study was five companies which are listed under the construction and allied sector of main investment market segment of the NSE. The researcher considered ten years from 2003 to 2012.

3.4 Data Collection

The study used mainly secondary data obtained from the NSE hand book. Data relating to the research question was obtained from the audited financial statements of the respective companies (Statement of financial position and statement of comprehensive income.

3.5 Data Analysis

The model that was used in this study was similar to that one of Gill, et al., (2011), the model used was multiple linear regression which included independent, dependent and control variables. This study considered all the construction and allied companies listed at the NSE for a period of 10 years from 2003 to 2012

Correlation analysis was carried out to find out the existence of multi-co linearity among independent variables in order to decide what variables can be used in regression model, or how the regression model with all independent variables was to be used

3.5.1 Analytical Model

The following Multiple Regression Equation Model was applied in this study,

$ROE_{it} = \beta 0 + \beta 1 SDA_{it} + \alpha\ 1\ LDA_{it} + \lambda\ 1\ DA_{it} + \beta 2 Size_{it} + \beta 3 SG_{it} + e1$

Where:

β0,: The intercept of equation.

β, α, λ: Coefficients for independent variables.

ROE: Net Income/ average equity

SDA: Short-term debt/total assets.

LDA: Long-term debt/total assets.

DA: Total debt/total assets

Size: Natural Logarithm of firm's sales, lagged one year period.

SG: Current year's sales minus previous year's sales divided by previous year's sales.

i: firm

t: time = 1, 2,……,10 years.

eit = Error term

The dependent, independent and control variables are as summarized below

1. Dependent Variable (Profitability Variable)

• Return on Equity (ROE)

2. Independent Variables (Capital Structure Variables)

•SDA: Short-term debt/total assets.

•LDA: Long-term debt/total assets.

•DA: Total debt/total assets

3. Controlled Variable

•Size; Natural Logarithm of firm's sales, lagged one year period.

•SG; Current year's sales minus previous year's sales divided by previous year's sales.

Correlation coefficient and coefficient of determination was used to test whether the expected values of a quantitative variable within several pre-defined groups differ from each other

CHAPTER FOUR

DATA ANALYSIS, RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the data analysis, presentation and interpretation of the study, the study sought to determine relationship between capital structure and profitability of the construction and Allied companies listed at the NSE. The study was conducted for a period of 10 years starting from 2003 to 2012. Secondary data was collected from the Audited Company's Financial Statements and NSE hand book, regression analysis was used to analyse the data.

4.2 Regression Analysis

4.2.1 Summary of Statistics for the year 2003

Table 4.1 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.951(a)	.904	.824	.01238

Source: Research Findings

Adjusted R squared is coefficient of determination which illustrates the variation in the dependent variable due to changes in the independent variable, from the findings in the above table the value of adjusted R squared was 0.824 an indication that there was variation of 82.4% on profitability of firm listed in the NSE due to changes in short term

debt, long term debt, total debt, size and sales growth at 95% confidence interval . This shows that 82.4% of profitability of firm listed in the NSE are influenced by changes arising from short term debt, long term debt, total debt, size and sales growth. R square is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above there was a strong positive relationship between the study variables at 0.951.

Table 4.2: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
1		B	Std. Error	Beta		
	(Constant)	.390	.265		1.098	.024
	Short term debt	.212	.491	.251	1.820	.032
	Long term debt	.108	.190	.010	1.034	.074
	Total debt	.120	.010	.497	2.346	.041
	Size	.163	.986	.444	2.096	.062
	Sale growth	.028	.019	.031	1.128	.014

Source: Research Findings

From the data in the above table the established regression equation was

$Y = 0.390 + 0.212 X_1 + 0.108 X_2 + 0.120 X_3 + 0.163X_4 + 0.028 X_4$

From the above regression equation it was revealed that holding short term debt , long term debt , total debt , size and sales growth to a constant zero , return on equity would be at 0.390 , a unit increase in short term debt would lead to increase in the return on

equity by a factors of 0.212, unit increase in long term debt would lead to increase in return on equity by a factors of 0.108, a unit increase in total debt would lead to increase in return on equity by a factor of 0.120 , a unit increase in size would lead to increase in return on equity by a factors of 0.163, further unit increase in sales growth would lead to increase in return on equity by a factors of 0.028.

4.2.2 Summary of Statistics for the year 2004

Table 4.3: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.924(a)	.853	.839	.19628

Source: Research Findings

Adjusted R squared is coefficient of determination which illustrates the variation in the dependent variable due to changes in the independent variable, from the findings in the above table the value of adjusted R squared was 0.839 an indication that there was variation of 83.9% on profitability of firm listed in the NSE due to changes in short term debt, long term debt, total debt, size and sales growth at 95% confidence interval . This shows that 83.9% of profitability of firm listed in the NSE are influenced by changes in short term debt , long term debt , total debt , size and sales growth . R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above there was a strong positive relationship between the study variables at 0.924.

Table 4.4: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
1		B	Std. Error	Beta		
	(Constant)	.421	.309		1.055	.957
	Short term debt	.245	.941	.024	1.075	.942
	Long term debt	.269	.052	.498	2.356	.040
	Total debt	.167	.981	.445	2.103	.062
	Size	.035	.290	.003	1.011	.992
	Sale growth	.019	.012	.018	2.356	.040

Source: Research Findings

From the data in the above table the established regression equation was

$Y = 0.421 + 0.245 X_1 + 0.269 X_2 + 0.167 X_3 + 0.035X_4 + 0.019 X_4$

From the above regression equation it was revealed that holding short term debt , long term debt , total debt , size and sales growth to a constant zero , return on equity would be at 0.421 , a unit increase in short term debt would lead to increase in the return on equity by a factors of 0.245, unit increase in long term debt would lead to increase in return on equity by a factors of 0.269, a unit increase in total debt would lead to increase in return on equity by a factor of 0.167 , a unit increase in size would lead to increase in return on equity by a factors of 0.035, further unit increase in sales growth would lead to increase in return on equity by a factors of 0.019.

4.2.3 Summary of Statistics for the year 2005

Table 4.5: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.881(a)	.776	.761	.13608

Source: Research Findings

Adjusted R squared is coefficient of determination which shows variation in the dependent variable due to changes in the independent variable, from the findings in the above table the value of adjusted R squared was 0.761 an indication that there was variation of 76.1% on profitability of firm listed in the NSE due to changes in short term debt, long term debt, total debt, size and sales growth at 95% confidence interval . This shows that 76.1% of profitability of firm listed in the NSE are influenced by changes in short term debt , long term debt , total debt , size and sales growth . R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above at 0.881 there was a strong positive relationship between the study variables.

Table 4.6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
1		B	Std. Error	Beta		
	(Constant)	.384	.354		1.166	.871
	Short term debt	.198	.135	.181	.581	.574
	Long term debt	.196	.046	.019	.060	.953
	Total debt	.136	.095	.065	.458	.648
	Size	.125	.066	.138	.976	.333
	Sale growth	.067	.041	.445	2.103	.062

Source: Research Findings

From the data in the above table the established regression equation was

$Y = 0.384 + 0.198\ X_1 + 0.196\ X_2 + 0.136X_3 + 0.125X_4 + 0.067\ X_4$

From the above regression equation it was revealed that holding short term debt , long term debt , total debt , size and sales growth to a constant zero , return on equity would be at 0.384, a unit increase in short term debt would lead to increase in the return on equity by a factors of 0.198, unit increase in long term debt would lead to increase in return on equity by a factors of 0.196, a unit increase in total debt would lead to increase in return on equity by a factor of 0.136 , a unit increase in size would lead to increase in return on equity by a factors of 0.125, further unit increase in sales growth would lead to increase in return on equity by a factors of 0.067.

4.2.4 Summary of Statistics for the year 2006

Table 4.7: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.826(a)	.682	.656	.12918

Source: Research Findings

Adjusted R squared is coefficient of determination which shows the variation in the dependent variable due to changes in the independent variable, from the findings in the above table the value of adjusted R squared was 0.656 an indication that there was variation of 65.6% on profitability of firm listed in the NSE due to changes in short term debt, long term debt, total debt, size and sales growth at 95% confidence interval . This shows that 65.6% of profitability of firm listed in the NSE are influenced by changes in short term debt , long term debt , total debt , size and sales growth . R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above there was a strong positive relationship between the study variables at 0.826.

Table 4.8: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.343	.269		1.052	.318
	Short term debt	.341	.147	.005	.016	.988
	Long term debt	.689	.180	.328	1.042	.322
	Total debt	.230	.130	.433	3.643	.001
	Size	.114	.018	.222	1.871	.067
	Sale growth	.136	.095	.065	.458	.648

Source: Research Findings

From the data in the above table the established regression equation was

$Y = 0.343 + 0.341\ X_1 + 0.689\ X_2 + 0.230X_3 + 0.114X_4 + 0.136\ X_4$

From the above regression equation it was revealed that holding short term debt , long term debt , total debt , size and sales growth to a constant zero , return on equity would be at 0.343, a unit increase in short term debt would lead to increase in the return on equity by a factors of 0.341, unit increase in long term debt would lead to increase in return on equity by a factors of 0.689, a unit increase in total debt would lead to increase in return on equity by a factor of 0.230 , a unit increase in size would lead to increase in return on equity by a factors of 0.114, further unit increase in sales growth would lead to increase in return on equity by a factors of 0.136.

4.2.5 Summary of Statistics for the year 2007

Table 4.9: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.928(a)	.861	.823	.02342

Source: Research Findings

Adjusted R squared is coefficient of determination which shows the variation in the dependent variable due to changes in the independent variable, from the findings in the above table the value of adjusted R squared was 0.823 an indication that there was variation of 82.3% on profitability of firm listed in the NSE due to changes in short term debt, long term debt, total debt, size and sales growth at 95% confidence interval . This shows that 82.3% of profitability of firm listed in the NSE are influenced by changes in short term debt , long term debt , total debt , size and sales growth. R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above there was a strong positive relationship between the study variables as shown by 0.928.

Table 4.10: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
1		B	Std. Error	Beta		
	(Constant)	.493	.474		1.129	.285
	Short term debt	.262	.375	.037	.122	.906
	Long term debt	.740	.506	.334	1.093	.300
	Total debt	.138	.023	.047	.357	.722
	Size	.161	.545	.158	1.204	.234
	Sale growth	.102	.030	.133	4.143	.001

Source: Research Findings

From the data in the above table the established regression equation was

$Y = 0.493 + 0.262\ X_1 + 0.740\ X_2 + 0.138X_3 + 0.161X_4 + 0.102\ X_4$

From the above regression equation it was revealed that holding short term debt , long term debt , total debt , size and sales growth to a constant zero , return on equity would be at 0.493, a unit increase in short term debt would lead to increase in the return on equity by a factors of 0.262, unit increase in long term debt would lead to increase in return on equity by a factors of 0.740, a unit increase in total debt would lead to increase in return on equity by a factor of 0.138 , a unit increase in size would lead to increase in return on equity by a factors of 0.161, further unit increase in sales growth would lead to increase in return on equity by a factors of 0.102.

4.2.6 Summary of Statistics for the year 2008

Table 4.11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.927(a)	.859	.817	.12582

Source: Research Findings

Adjusted R squared is coefficient of determination which illustrates the variation in the dependent variable due to changes in the independent variable, from the findings in the above table the value of adjusted R squared was 0.817 an indication that there was variation of 81.7% on profitability of firm listed in the NSE due to changes in short term debt, long term debt, total debt, size and sales growth at 95% confidence interval . This shows that 81.7% of profitability of firm listed in the NSE are influenced by changes in short term debt , long term debt , total debt , size and sales growth. R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above there was a strong positive relationship between the study variables as shown at 0.927.

Table 4.12: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
1		B	Std. Error	Beta		
	(Constant)	.417	.984		1.101	.297
	Short term debt	.695	.441	.029	.093	.927
	Long term debt	.737	.537	.334	1.079	.306
	Total debt	.230	.730	.433	3.643	.001
	Size	.480	.258	.681	1.247	.018
	Sale growth	.121	.108	.123	1.142	.081

Source: Research Findings

From the data in the above table the established regression equation was

$Y = 0.417 + 0.695 X_1 + 0.737 X_2 + 0.230X_3 + 0.480X_4 + 0.121 X_5$

From the above regression equation it was revealed that holding short term debt , long term debt , total debt , size and sales growth to a constant zero , return on equity would be at 0.417, a unit increase in short term debt would lead to increase in the return on equity by a factors of 0.695, unit increase in long term debt would lead to increase in return on equity by a factors of 0.737, a unit increase in total debt would lead to increase in return on equity by a factor of 0.230 , a unit increase in size would lead to increase in return on equity by a factors of 0.480, further unit increase in sales growth would lead to increase in return on equity by a factors of 0.121.

4.2.7 Summary of Statistics for the year 2009

Table 4.13: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.907(a)	.822	.789	.12372

Source: Research Findings

Adjusted R squared is coefficient of determination which shows the variation in the dependent variable due to changes in the independent variable, from the findings in the above table the value of adjusted R squared was 0.789 an indication that there was variation of 78.9% on profitability of firm listed in the NSE due to changes in short term debt, long term debt, total debt, size and sales growth at 95% confidence interval . This shows that 78.9% of profitability of firm listed in the NSE are influenced by changes in short term debt , long term debt , total debt , size and sales growth. R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above there was a strong positive relationship between the study variables at 0.907.

Table 4.14: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
1		B	Std. Error	Beta		
	(Constant)	.533	.471		.146	.887
	Short term debt	.052	.012	.207	.668	.519
	Long term debt	.143	.160	.007	.021	.983
	Total debt	.195	.041	.029	.093	.027
	Size	.137	.037	.334	1.079	.006
	Sale growth	.161	.145	.158	1.204	.234

Source: Research Findings

From the data in the above table the established regression equation was

$Y = 0.533 + 0.052\ X_1 + 0.143\ X_2 + 0.195X_3 + 0.137X_4 + 0.161\ X_5$

From the above regression equation it was revealed that holding short term debt , long term debt , total debt , size and sales growth to a constant zero , return on equity would be at 0.533, a unit increase in short term debt would lead to increase in the return on equity by a factors of 0.052, unit increase in long term debt would lead to increase in return on equity by a factors of 0.143, a unit increase in total debt would lead to increase in return on equity by a factor of 0.195 , a unit increase in size would lead to increase in return on equity by a factors of 0.137, further unit increase in sales growth would lead to increase in return on equity by a factors of 0.161.

4.2.8 Summary of Statistics for the year 2010

Table 4.15: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.902(a)	.813	.793	.24467

Source: Research Findings

Adjusted R squared is coefficient of determination which shows the variation in the dependent variable due to changes in the independent variable, from the findings in the above table the value of adjusted R squared was 0.793 an indication that there was variation of 79.3% on profitability of firm listed in the NSE due to changes in short term debt, long term debt, total debt, size and sales growth at 95% confidence interval . This shows that 79.3% of profitability of firm listed in the NSE are influenced by changes in short term debt , long term debt , total debt , size and sales growth. R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above there was a strong positive relationship between the study variables as shown at 0.902.

Table 4.16: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
1		B	Std. Error	Beta		
	(Constant)	.408	.341		.208	.839
	Short term debt	.439	.965	.205	.653	.529
	Long term debt	.592	.771	.027	.087	.932
	Total debt	.480	.258	.681	1.247	.018
	Size	.196	.695	.065	1.458	.048
	Sale growth	.114	.398	.222	1.871	.067

Source: Research Findings

From the data in the above table the established regression equation was

$Y = 0.408 + 0.439\ X_1 + 0.592\ X_2 + 0.480X_3 + 0.196X_4 + 0.114\ X_5$

From the above regression equation it was revealed that holding short term debt , long term debt , total debt , size and sales growth to a constant zero , return on equity would be at 0.408, a unit increase in short term debt would lead to increase in the return on equity by a factors of 0.439, unit increase in long term debt would lead to increase in return on equity by a factors of 0.592, a unit increase in total debt would lead to increase in return on equity by a factor of 0.480 , a unit increase in size would lead to increase in return on equity by a factors of 0.196, further unit increase in sales growth would lead to increase in return on equity by a factors of 0.114.

4.2.9 Summary of Statistics for the year 2011

Table 4.17: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.887(a)	.786	.758	.11456

Source: Research Findings

Adjusted R squared is coefficient of determination which shows the variation in the dependent variable due to changes in the independent variable, from the findings in the above table the value of adjusted R squared was 0.758 an indication that there was variation of 75.8% on profitability of firm listed in the NSE due to changes in short term debt, long term debt, total debt, size and sales growth at 95% confidence interval . This shows that 75.8% of profitability of firm listed in the NSE is influenced by changes in short term debt , long term debt , total debt , size and sales growth. R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above there was a strong positive relationship between the study variables as shown at 0.887.

Table 4.18: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
1		B	Std. Error	Beta		
	(Constant)	.287	.144		.256	.803
	Short term debt	.270	.115	.194	.601	.561
	Long term debt	.115	.086	.049	.152	.882
	Total debt	.237	.160	.198	1.479	.012
	Size	.231	.126	.245	1.834	.001
	Sale growth	.125	.066	.138	1.976	.333

Source: Research Findings

From the data in the above table the established regression equation was

$Y = 0.287 + 0.270\ X_1 + 0.115\ X_2 + 0.237\ X_3 + 0.231X_4 + 0.125X_5$

From the above regression equation it was revealed that holding short term debt , long term debt , total debt , size and sales growth to a constant zero , return on equity would be at 0.287, a unit increase in short term debt would lead to increase in the return on equity by a factors of 0.270, unit increase in long term debt would lead to increase in return on equity by a factors of 0.115, a unit increase in total debt would lead to increase in return on equity by a factor of 0.237, a unit increase in size would lead to increase in return on equity by a factors of 0.231, further unit increase in sales growth would lead to increase in return on equity by a factors of 0.125.

4.2.10 Summary of Statistics for the year 2012

Table 4.19: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.822(a)	.675	.626	.09460

Source: Research Findings

Adjusted R squared is coefficient of determination which shows the variation in the dependent variable due to changes in the independent variable, from the findings in the above table the value of adjusted R squared was 0.626 an indication that there was variation of 62.6% on profitability of firm listed in the NSE due to changes in short term debt, long term debt, total debt, size and sales growth at 95% confidence interval . This shows that 62.6% of profitability of firm listed in the NSE are influenced by changes in short term debt , long term debt , total debt , size and sales growth. R is the correlation coefficient which shows the relationship between the study variables, from the findings shown in the table above there was a strong positive relationship between the study variables as shown by 0.822.

Table 4.20: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
1		B	Std. Error	Beta		
	(Constant)	.389	.271		2.030	.070
	Short term debt	.517	.362	.355	1.429	.183
	Long term debt	.521	.328	.483	1.942	.081
	Total debt	.239	.145	.008	.065	.023
	Size	.281	.114	.031	.246	.016
	Sale growth	.196	.695	.065	1.458	.648

Source: Research Findings

From the data in the above table the established regression equation was

$Y = 0.389 + 0.517 X_1 + 0.521 X_2 + 0.239 X_3 + 0.281X_4 + 0.196X_5$

From the above regression equation it was revealed that holding short term debt , long term debt , total debt , size and sales growth to a constant zero , return on equity would be at 0.389, a unit increase in short term debt would lead to increase in the return on equity by a factors of 0.517, unit increase in long term debt would lead to increase in return on equity by a factors of 0.521, a unit increase in total debt would lead to increase in return on equity by a factor of 0.239, a unit increase in size would lead to increase in return on equity by a factors of 0.281, further unit increase in sales growth would lead to increase in return on equity by a factors of 0.196.

4.3 Interpretation of Findings

From the findings of the adjusted R squared which is the coefficient of determination , the study revealed that there was a greater variation on profitability of construction and allied firm listed in the NSE due to changes in short term debt, long term debt, total debt, size and sales growth. This showed that changes in profitability of firms listed in the NSE could be accounted to changes in short term debt, long term debt total debt, size and sales growth. The study also revealed that there was a strong positive relationship between profitability of construction and allied firm listed in the NSE and total debt, long term debt, short term debt, total debt, size and sales growth.

From the finding on the regression equation, the study found that there exist a positive relationship between short term debt, long term debt, total debt, size, sales growth and return on equity. the study found that a unit increase in short term debt would lead to increase in the return on equity, unit increase in long term debt would lead to increase in return on equity, a unit increase in total debt would lead to increase in return on equity, a unit increase in size would lead to increase in return on equity, further unit increase in sales growth would lead to increase in return on equity.

The findings of this paper are similar to those one of Ondiek (2010), whose study on relationship between capital structure and financial performance of firms listed at the NSE found out that there existed a significant positive relationship between Short term debt and ROE suggesting that profitable firms use more short term debt to finance their operations he also concluded that capital structure of listed companies are heavily influenced by size and profitability

The findings are also similar to Gill, et al., (2011) who aimed at extending Abor (2005) findings and found out that there existed a positive relationship between short term debt to total assets and profitability and between total debt to total assets and profitability in the service industry.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

From the analysis and data collected, the following discussions, conclusion and recommendations were made. The responses were based on the objectives of the study. The researcher had intended to determine the relationship between capital structure and profitability of the construction and Allied companies listed at the NSE.

5.2 Summary

From the findings of the adjusted R squared which is the coefficient of determination, the study revealed that there is a greater variation on profitability of construction and allied firm listed in the NSE due to changes in Total debt, Long term debt and short term debt. This shows that changes in profitability of firm listed in the NSE could be accounted to changes in short term debt, long term debt, total debt, size and sales growth.

From the findings of the regression equation, the study found out that there exist a positive relationship between Total debt, Long term debt, Short term debt, size, sales growth and return on equity. The study found out that, a unit increase in short term debt would lead to increase in the return on equity, unit increase in long term debt would lead to increase in return on equity, a unit increase in total debt would lead to increase in return on equity, a unit increase in size would lead to increase in return on equity, and further unit increase in sales growth would lead to increase in return on equity.

5.3 Conclusion

The study objective was to determine the relationship between capital structure and profitability of the construction and Allied companies listed at the NSE.

The findings of the adjusted R squared revealed that there exist a greater variation on profitability of construction and allied firm listed in the NSE due to changes in Total debt, Long term debt and short term debt, this illustrated thats changes in profitability of firm listed in the NSE could be accounted to changes in short term debt, long term debt, total debt, size and sales growth.

The findings of the regression equation, found out that there exist a positive relationship between Total debt, Long term debt, Short term debt, size, sales growth and return on equity.

The study concludes that there is a strong positive relationship between profitability of construction and allied firm listed in the NSE and Total debt, Long term debt, short term debt, size and sales growth.This shows that, for a firm to be profitable it should consider borrowings as a source of viable financing option which can increase its profits especially where such funds are put in to economical use.

5.4 Recommendations for Policy

From the research carried out it is evident that borrowings lead to increase in profits, the study recommends that companies, should consider borrowing for funds and putting such funds to economical value so that they can consequently reap from such projects and increase their profits.

Secondly, companies should be able to identify and differentiate between short term and long term debt in terms of the source of financing and the use of financing as well.

Thirdly the firm management should take in to account their size and growths as this have also turned to be critical factors in determining profitability.

5.5 Limitations of the Study

The study relied on secondary data (reported accounting /financial statements and therefore the reliability and quality of the data used was not a hundred percent.

Secondly, the researcher had no control over the quantity and form of data for the study and this contributed to shortage of data; some of the financial statements used by the researcher did not give enough information leaving the researcher to hunt for more facts; and further to this financial statements used are prone to errors and therefore the researcher had to be familiar with other empirical studies that have similar dataset.

Thirdly, the researcher concern on the implicit assumption of debt homogeneity in the capital structure model. For example, debt with varying maturity dates may not possess

the same attributes. Similarly, the characteristics of bank borrowing may consequently not be the same.

5.6 Areas for Further Research

The study recommends that further research should be on the relationship between capital structure and profitability in other sectors such as Agriculture.

Secondly the study also recommends a study to be carried out on capital structure, industry pricing, and firm performance.

And lastly a study should also be carried out to examine the relationship between maturity structure of the firm's debt, its decision and performance.

REFERENCES

Abor, J. (2005), The effect of capital structure on profitability: empirical analysis of listed firms in Ghana. J Risk Finance; 6: 438-45.

Arimi, B. (2010), Relationship between capital structure and financial performance. A study of industrial and allied firms in Kenya: A Management Research paper, School of Business; University of Nairobi

Bain, J. S. (1956) Barriers to New Competition: Their Character and Consequences in Manufacturing Industries. Harvard University Press, Cambridge, MA,

Brander, J. and T. Lewis, 1986. Oligopoly and financial structure: The limited liability effect, American Economic Review, 956-970.

Buzzell, R. and B. Gale. (1986) The PIMS Principles, Free Press, New York, .

Chiang, Y., Chang, P., and Hui, C. (2002), "Capital structure and profitability of the property and construction sectors in Hong Kong", Journal of Property Investment and Finance, 20, 434-53.

Conant, J. S., M. P. Mokwa, and P. R.Varadarajan (1990). "Strategic Types, Distinctive Marketing Competenciesand Organizational Performance: A Multiple Measures Based Study,"Strategic Management Journal 11,365–383

Copeland,TE and F.J Weston(1988).Financial Theory and corporate policy,3rd Ed.Addison –Wesley publishing Company Inc..

Dimitris Margaritis & Maria Psillaki,(2007). "Capital Structure and Firm Efficiency," Journal of Business Finance & Accounting, Wiley Blackwell, vol. 34(9-10), pages 1447-1469

Drexler, J. A. '(1977) "Organizational climate: its homogeneity within organization'' Journal of Applied Psychology, 62, pp. 38-42.

Don Hofstrand (1999) “Understanding *profitability*’’ Journal of Agriculture decision maker, 2, pp. 3-24.

Gill, Amarjit; Biger, Nahum; Mathur, Neil (2011) International Journal of Management;, Vol. 28 Issue 4, P3

Gleason KC, Mathur LK, Mathur I. (2000) "The interrelationship between culture, capital structure, and performance’’: evidence from European retailers. J Bus Res; 50: 185-91.

Glen, J., Pinto, B. (1994), "Debt or equity? How firms in developing countries choose", Discussion Paper 22, International Financial Corporation, Washington, DC

Graham, John (2000). How Big Are the Tax Benefits of Debt? Journal of Finance, 55, 1901-1941.

Harris, M. and A.Raviv.(1990)“Capital Structure and the Informational Role of Debt.” Journal of finance, 45,321-349

Hansen.G.S & Wernerfelt.B, (1989) Strategic Management Journal, Vol. 10, No. 5. pp. 399-411.

Hennessy & Toni M. Whited, (2005). *"Debt Dynamics,"* Journal of Finance, American Finance Association, vol. 60(3), pages 1129-1165, 06..

Jensen, F.E and Langemeier, N. (1996), "Optimal leverage with risk aversion: empirical evidence", Agricultural Finance Review, Vol. 56 pp.85-97

Jensen, Michael C. (1986). “The Takeover Controversy: Analysis and Evidence.” Midland CorporateFinanceJournal4, no. 2 (summer):6-32.

Jensen M, Meckling (1976) W. Theory of the firm: "managerial behaviour, agency costs and ownership structure.’’ J Finance Econ ; 3: 305-60.

Kester CW (1986) Capital and ownership structure: "A comparison of United States and Japanese Corporations’’. Finance Management ;15: 5-16.

Kitaka Peter Nthiwa (2001), "A survey of use of financial performance indicators by microfinance institutions in Kenya'', Un published MBA project, University of Nairobi

Lalith Samarakoon ".(1999) The Capital Structure of Sri Lankan Companies.'' Sri Lankan Journal of Management,. 4: 18-30;

Leibenstein, H. (1976) Beyond Econotnic Man. Harvard University Press, Cambridge, MA,

Maksimovic, V.,(1988). "Capital structure in repeated oligopolies'', RAND Journal of Economics 19, 389-407

Mendell, B.C., Sydor, T., & Mishra, N., (2006). "Capital structure in the United States forest products industry: The influence of debt and taxes "Forest Science, 52(5), pp. 540-548

Modigliani, F. and Miller, M. H. (1958). "The Cost of Capital, Corporate Finance and the Theory of Investment'' American Economic Review, 48, 261-97.

Munene, K, H., (2006), "Impact of profitability on capital structure of companies listed at NSE'' A Management Research paper, School of Business; University of Nairobi.

Musili K (2006), "Capital structure choice. a survey of industrial firms in Kenya'': A Management Research paper, School of Business; University of Nairobi

Myers SC. (1977) "Determinants of corporate borrowing''. Journal of Financial Economics; 9: 147-76

Myers SC, Majluf NS(1984) "Corporate financing and investment decisions when firms have information that investors do not have''. J Financ Econ 1984; 13: 187-221.

Ondiek (2010), "Relation ship between capital structure and financial performance of firms listed at the NSE'' MBA project, University of Nairobi

Ooi, J. (1999), "The determinants of capital structure: evidence on UK property companies", Journal of Property Investment & Finance, Vol. 17 No.5, pp.464-80

Raheman, A., B. Zulfiqar, and Mustafa. (2007). “Capital Structure and Profitability: A Case of Islamabad Stock Exchange”. International Review of Business Research Papers ,3(5),pp.347–61.

Rajan RG, Zingales L.(1995) What do we know about the capital structure? Some evidence from international data. J Finance 1995; 50:1421-60

Rosemary peavler (2008) “Profitability ratios, financial ratios Analysis, Profit margin, Return on equity Return on investment’’,Finance for Small Business Owners, Entrepreneurs, Education. The New York Times Company, retrieved from http://bizfinance.about.com/od/financialratio

Schmalensee, R. (1985) ‘’Do markets differ much?', American Economic Review, 75, pp.341-351.

Sheel, A. (1994)“Determinants of Capital Structure Choice and Empirics on Leverage Behaviour’’: A Comparative Analysis of Hotel and Manufacturing Firms ”Journal of Hospitality and Tourism Research, 17 (3), pp.1–16 26

Shepherd, W. G (1972). ‘'The elements of market structure', Review of Economics and Statistics, 54(1),, pp. 25-37.

Simons, J. and W. Mares.(1983) Working Together. Alfred Knopf, New York, 1983.

Stulz, R., 1990. “Managerial discretion and optimal financing policies,” Journal of Financial Economics,Vol.26, pp.3-27

Taub AJ. (1975) Determinants of the firm's capital structure. Rev EconState ; 57: 410-6.

Waithaka (2011) Construction is top performing industry in Kenya’s economy retrieved from http://www.the-star.co.ke/news/article-58189/

Wernerfelt B. and C. Montgomery (1988), Tobin's q and the importance of focus in firm performance American Economic Review, 78, (1), pp. 246-250

Williamson O, (1988), "Corporate finance and corporate governance", Journal of Finance, 43 (3), 567-591

APPENDICES

Appendix 1: Construction and Allied Companies in Kenya Listed in the NSE as at 30 September 2013

No.	
1	East African Cables Limited
2	East Africa Portland Cement Limited
3	Athi River Mining Limited
4	Bamburi Cement Limited
5	Crown Berger's Limited

Source; NSE Hand book 2012

Appendix 2: Raw Data Used In the Analysis

2003						
	TD	**size**	**ROE**	**Growth**	**STD**	**LTD**
East African Cables Limited	0.469	0.872	0.027	0.900	0.096	0.373
East Africa Portland Cement Limited	0.841	0.637	0.114	0.959	0.057	0.785
Athi River Mining Limited	0.595	1.057	0.144	0.670	0.006	0.589
Bamburi Cement Limited	0.039	0.346	0.018	0.940	0.013	0.026
Crown Berger's Limited	0.352	0.904	0.126	0.945	0.035	0.317
2004						
East African Cables Limited	0.529	0.963	0.094	0.974	0.006	0.523
East Africa Portland Cement Limited	0.466	0.761	0.077	0.970	0.072	0.394
Athi River Mining Limited	0.372	1.028	0.034	0.943	0.145	0.227
Bamburi Cement Limited	0.940	1.303	0.272	0.940	0.033	0.907
Crown Berger's Limited	0.674	1.183	0.187	0.832	0.349	0.325
2005						
East African Cables Limited	0.087	0.541	0.091	0.622	0.035	0.052
East Africa Portland Cement Limited	0.137	0.862	0.138	0.823	0.028	0.109
Athi River Mining Limited	0.235	1.067	0.263	0.912	0.036	0.199
Bamburi Cement Limited	0.242	1.701	0.221	0.892	0.115	0.127
Crown Berger's Limited	0.605	0.809	0.215	0.946	0.018	0.588
2006						
East African Cables Limited	0.630	1.370	0.092	0.922	0.035	0.595
East Africa Portland Cement Limited	0.652	1.079	0.186	0.968	0.100	0.552
Athi River Mining Limited	0.231	0.716	0.124	0.877	0.022	0.209

Bamburi Cement Limited	0.274	1.204	0.342	0.937	0.067	0.207
Crown Berger's Limited	0.139	1.097	0.053	0.560	0.016	0.123
2007						
East African Cables Limited	0.442	0.870	0.124	0.922	0.083	0.359
East Africa Portland Cement Limited	0.582	0.942	0.072	0.969	0.013	0.568
Athi River Mining Limited	0.392	0.762	0.101	0.967	0.263	0.129
Bamburi Cement Limited	0.248	1.203	0.049	0.934	0.019	0.229
Crown Berger's Limited	0.238	1.198	0.217	0.933	0.007	0.231
2008						
East African Cables Limited	0.496	0.747	0.236	0.713	0.064	0.432
East Africa Portland Cement Limited	0.676	0.532	0.081	0.587	0.169	0.508
Athi River Mining Limited	0.516	0.612	0.091	0.834	0.239	0.277
Bamburi Cement Limited	0.358	0.903	0.202	0.904	0.072	0.286
Crown Berger's Limited	0.330	1.629	0.225	0.871	0.066	0.264
2009						
East African Cables Limited	0.582	0.942	0.072	0.969	0.013	0.568
East Africa Portland Cement Limited	0.392	0.762	0.101	0.967	0.263	0.129
Athi River Mining Limited	0.248	1.203	0.049	0.934	0.019	0.229
Bamburi Cement Limited	0.238	1.198	0.217	0.933	0.007	0.231
Crown Berger's Limited	0.496	0.747	0.236	0.713	0.064	0.432
2010						
East African Cables Limited	0.676	0.532	0.081	0.587	0.169	0.508
East Africa Portland Cement Limited	0.416	0.612	0.091	0.834	0.239	0.177

Athi River Mining Limited	0.810	0.259	0.275	0.953	0.239	0.571
Bamburi Cement Limited	0.388	0.848	0.059	0.850	0.001	0.387
Crown Berger's Limited	0.576	0.959	0.061	0.961	0.048	0.529
2011						
East African Cables Limited	0.624	0.787	0.015	0.909	0.048	0.576
East Africa Portland Cement Limited	0.732	0.609	0.083	0.957	0.067	0.665
Athi River Mining Limited	0.602	1.107	0.148	0.640	0.060	0.543
Bamburi Cement Limited	1.035	0.331	0.091	0.950	0.069	0.966
Crown Berger's Limited	0.442	0.870	0.124	0.922	0.083	0.359
2012						
East African Cables Limited	0.582	0.942	0.072	0.969	0.013	0.568
East Africa Portland Cement Limited	0.392	0.762	0.101	0.967	0.263	0.129
Athi River Mining Limited	0.248	1.203	0.049	0.934	0.019	0.229
Bamburi Cement Limited	0.238	1.198	0.217	0.933	0.007	0.231
Crown Berger's Limited	0.496	0.747	0.236	0.713	0.064	0.432