THE RELATIONSHIP BETWEEN FIRM SIZE AND FINANCIAL LEVERAGE OF FIRMS LISTED AT NAIROBI SECURITIES EXCHANGE

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DECLARATION

This research project is my original work and has not been presented to any other university or college for an award of a certificate, diploma or degree.

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This research proposal has been submitted for examination with my approval as the University of Nairobi supervisor

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DEDICATION

This research project is dedicated to my loving parents for laying a strong foundation for my life. I am forever grateful.

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Special thanks to my Heavenly Father for His goodness throughout this journey and for granting me all the resources, good health and the zeal to accomplish this study.

My sincere gratitude to my supervisor Dr. Kennedy Okiro for the great guidance, support, constructive suggestions and inspiration throughout this research project. God bless you.

For all those who contributed directly or indirectly to the accomplishment of this project, You have my sincere appreciations.

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ABBREVIATIONS AND ACRONYMS

CMA-Capital Markets Authority

NSE-Nairobi Securities Exchange

QR-Quintile Regression

R&D-Research and Development

ROE-Return on Equity

ROI-Return on Investment

ABSTRACT

The purpose of the study was to establish the relationship between firm size and financial leverage of companies listed at the Nairobi Securities Exchange. Specifically the study sought to establish the effect of firm size, profitability and sales volume on financial leverage of companies listed Nairobi Securities Exchange. Based on the trade off and pecking order theory this study builds a comprehensive framework to answer the research question on whether firm size affects financial leverage of firms listed at Nairobi Securities Nairobi. A census survey was carried out on all the 64 listed companies between 2010 and 2014 in Nairobi Securities Exchange. The financial leverage was measured using debt/equity. The variables were tested using regression analysis and Pearson's Product Moment Correlation analysis. Descriptive statistics were computed for the listed companies and the main characteristics of the study variables. The findings revealed that the relationship between firm size and financial leverage was statistically significant. There was a significant positive relationship between firm size and financial leverage. The study also confirmed that there is a negative significant relationship between profitability (ROA) and financial leverage. It was also established that there is a negative significant relationship sales volume and financial leverage. The study not only contributes to understanding the link between firm size and financial leverage but at the same time confirms the findings of previous studies that have found a significant link between firm size and financial leverage.

CHAPTER ONE: INTRODUCTION

1.1Background of the Study

The size of a firm plays an important role in determining the kind of relationship the firm enjoys within and outside its operating environment. The larger a firm is, the greater the influence it has on its stakeholders. Again, the growing influences of conglomerates and multinational corporations in today's global economy are indicative of what role size plays within the corporate environment.

Kumar (2001) argue that an interesting aspect of economic growth is that much of it takes place through the growth in the size of existing organizations. Large and stable firms make huge investments that positively impact on the economy in terms of job creation and payment of taxes. This is in line with the findings by Rajan and Zingales (1995) who studied a sample of 43 countries show that two-thirds of the growth in industries over the 1980s, was found to come from the growth in the size of existing establishments, while only one-third trickled in from the creation of new ones.

One of the most popular areas where the influence of firm size has been much queried is the area of practice of corporate finance. The debate on whether firm size has any relationship with use of financial leverage has received growing attention. Diverse views from different scholars have triggered interest to investigate this relationship. Graham and Harvey (2002), for instance, through their survey, sort the views of about 392 chief financial officers from about 4,440 firms on the current practice of corporate finance. Results of the survey show that firm size significantly affects the practice of corporate

finance. Kumar (2007) puts more emphasis that profit interacts with size; large firms are less susceptible to bankruptcy because they tend to be more diversified than smaller companies. Therefore, low levels of bankruptcy enable large firms to take on more debts. The larger firms can reduce the level of information asymmetries in the market and obtain financial resources more easy which in turns leads to financial performance of a firm.

1.1.1 Firm Size

Pandey (2004) defines firm size in terms of total assets held by an organization. Dittmar (2004) emphasized that profit interacts with size; large firms are less susceptible to bankruptcy because they tend to be more diversified than smaller companies. Therefore, low levels of bankruptcy enable large firms to take on more debts. The larger firms can reduce the level of information asymmetries in the market and obtain financial resources more easily which in turn leads to financial performance of a firm (Gonenc, 2005).

It is worth noting that larger firms are more diversified than smaller firms. Large firms have higher capacity to meet up with interest payments (Cazorla-Papis, 2001). Such companies are also found to be enjoying higher degree of information disclosure (Rajan and Zingales, 1995), and they have higher collateral values and lesser bankruptcy risks. This creates more opportunities for large firms to qualify for financial leverage as opposed to smaller firms.

Large firms supposedly ought to have higher investment opportunities and so they have higher need for cash than smaller firms (Dittmar, 2004, p. 12). As a firm grows in size, its

ability to borrow increases, and so, its debt-equity ratio increases concurrently. Within the circuit of small firms, need for funds may be limited by the fact that their scales of operations are also limited. Banks and investors are afraid of committing funds in the projects of small businesses. Small firms themselves may be indisposed to expose themselves to risks associated with distress and bankruptcy, as well as loss of ownership. The size of the firm is measured using the logarithm of total assets which is fixed assets plus current assets. Asset turnover is also a measure of firm size which is average sales divided by total assets of the firm (Kumar, Rajan and Zingales, 2001).

1.1.2 Financial Leverage

According to Huyghebaert (2006) financial leverage is the use of fixed cost financing. It is always a choice item. No firm is required to have any long-term debt. Firms can instead finance operations and capital expenditures from internal sources and the issuance of common stocks. Financial leverage is employed in the hope of increasing the return to common shareholders. Tongurai (2015) favorable or positive leverage is said to occur when the firm uses funds obtained at a fixed cost to earn more than the fixed financing costs paid. Any profits left after meeting the fixed financing costs then belong to common shareholders. Unfavorable or negative leverage occurs when the firm does not earn as much as the fixed financing costs.

Graham (2000) argue that the greater the amount of debt, the greater the financial leverage. Financial leverage is the extent to which interest on debt magnifies changes in operating income into even greater proportionate changes in earnings after taxes. It increases earnings

per share during period of rising operating income but adds significant risks for stockholders and creditors because of added interest obligations. Dittmar (2004) indicate that debt is one of the tools used by firms to leverage their capital and enhance profits. One of the best ways in which company increases its profit is through financial leverage. Financial leverage uses debt instruments so that the anticipated level return on the company's equity would increase. The level of financial leverage of a certain company is determined by getting the total value of debt and the equity and the ratio of debt.

1.1.3 The relationship Between the Firm Size and Financial Leverage

Firm size has been one of the variables most commonly used in explaining a company's level of debt. Many studies have made it clear that the size of a firm is positively related to its use of debt as a source of financing. 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. The tangible assets of a firm can be considered representative of the real guarantees that it can offer its creditors. Therefore, the importance of those assets among total assets influences its level of debt, which rises with the increase of warranties offered by the firm to satisfy its obligations arising from contracted debt (Gregory and Tenev, 2001).

Gonenc (2005) have argued that the size of the firm and financial leverage are positively correlated. Large firms may favor equity financing than debt financing due to the relativity of the cost of equity financing owing to asymmetric information which is small for such firms. Such firms may also be enjoying some reputation advantage among prospective investors especially, as a result of their consolidation in the market. Therefore, they may

prefer to exploit this opportunity instead of approaching commercial banks. Other supporters of the negative linear relationship between size and leverage are Cooley and Quandrini (2001), find that smaller and younger firms pay fewer dividends, take on more debt, and comparatively invest more than relatively large firms. Others are Mat Nor and Ariffi (2006) and Berger and Udell (1994) whose studies reveal that small firms do fall back heavily on bank loans for their financing requirements and become heavily indebted than larger companies.

1.1.4 Nairobi Securities Exchange

The Nairobi Securities Exchange is licensed and regulated by the Capital Markets Authority (CMA). It has the mandate of providing a trading platform for listed securities and overseeing its Member Firms. The Capital Markets Authority is the Government Regulator charged with licensing and regulating the capital markets in Kenya. It also approves public offers and listings of securities traded at the Nairobi Stock Exchange. There is currently 64 licensed firms under the Nairobi securities Exchange.

In Kenya large listed firms favor equity financing than debt financing due to the relativity of the cost of equity financing. Large and reputable firms are more advantaged here in Kenya especially among investors. This has been driven by the realization of the importance of consolidation to increase synergy among listed firms in Kenya. The local investors prefer consolidation of firms rather than lending from a commercial bank. In the local setting growth of small firms is more sensitive to internal finance than that of larger

firms. Small firms are more likely to face financial constraints; this prevents them to gain access to finances from banks (Njoroge, 2014). These firms are prepared to pay higher interest rates for additional loans and thus fail to consider issuing external equity in order to stay in control. Large and stable firms can predict the future due to access of information as compared to smaller firms. This makes it easier for them to access debt since they easily plan for their future.

1.2Research Problem

When a firm becomes larger, it enjoys economics of scale and its average cost of production is lower and operational activities are more efficient. Abel (2008) opines that large firms face less difficulty in getting access to credit facilities from financial institutions for investment. This is because they have broader pools of qualified human capital, and may achieve greater strategic diversification. Akbas and Karaduman (2012) stated that larger firms have some advantages such as greater possibility of taking advantage of scale of economies which can enable more efficient production, a greater bargaining power over both suppliers and distributors or clients, exploiting experience curve effects and setting prices above the competitive level.

In the Kenyan market the size of the firm is highly influenced by financial markets development. Li (2005) pinpointed that the effect firm size has on leverage depends equally on the level of financial markets development within an economy. Li (2005) make clearer the implications of this condition. The results of their work interestingly demonstrate that large economies benefit firms of different sizes, especially small firms, to access long-term

borrowing. Fast-growing economies only increase the access of large and medium firms to long-term debt.

Studies have been done on firm size: Gupta (1969) investigated the effect of size on growth of manufacturing companies. The results showed that firm size was positively related to growth of manufacturing firms. Symeou (2012) examined the relationship between the firm size and financial performance. The results of the analysis revealed that there was a statistically significant relationship between firm size and financial performance. Ezeoha (2008) studied the relationship between firm size and corporate financial-leverage choice in a developing economy. The findings revealed that there was a positive relationship between firm size and corporate financial-leverage.

Kithuka (2013) did a study on the relationship between firm size and financial innovation of firms listed at the Nairobi Securities Exchange. The study found that the firm size influenced financial innovation. Njoroge (2014) studied the effect of firm size on financial performance of pension schemes in Kenya. The results indicated that there was significant market volatility as evident from the NSE index, Treasury bill rate movement and offshore indices. Tale (2014) investigated the relationship between capital structure and performance of non-financial firms. The results of the control variable: the size of the firm showed a positive relationship with financial performance of non-financial firms.

From the above studies, none has focused on the relationship between firm size and financial leverage of listed firms at Nairobi Security Exchange. This study seeks to find an

answer to the following research question: what is the effect of firm size on financial leverage of firms listed at Nairobi Securities Exchange?

1.3 Objective of the Study

To determine the effect of firm size on financial leverage of firms listed at Nairobi Securities Exchange.

1.4 Value of the Study

The empirical findings might be useful to policy makers; like Capital Markets Authority (CMA) in setting policies that encourage listed firms to use debt in order to benefit from tax deductions and improve performance. This study will notify the importance of effectively balancing the capital structure to prevent cases of financial distress by firms. Other firms will learn the benefits of utilizing financial leverage and how its impacts on performance of listed firms. The findings of the study might be used as a guide by large and small firms when making deciding whether to finance their firm through debt or equity.

The study will contribute to the existing literature. It will add more information on the theories and the relationship between firm size and financial leverage of listed firms. Researchers interested in this field of research might use the findings of this study as a point of reference for further research.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter covers the theoretical framework, the determinants of financial leverage, empirical review and the summary of the literature review.

2.2 Theoretical Framework

This section will cover the theories that support the relationship between the size of the firm and financial leverage. These theories are: Modigliani Miller Orr Model, Tradeoff Theory and Pecking Order theory as follows:

2.2.1 Modigliani and Miller

Miller and Modigliani's (MM) important contribution to capital structure theory of 1958, which showed that, given a company's investment policy, and not taking taxes and transaction costs into account, the choice of financial policy does not affect the current market value of the company. However, because real markets are far from the so-called perfect capital markets on which MM based their work; numerous studies have shown the interdependence among investment decisions, financing decisions, and firm value (Modigliani and Miller, 1963).

There are certain factors, such as taxes, that favor a company's use of debt, but others, such as the cost of bankruptcy, that limit that tax advantage. Along these lines, it may be said that agency and signal theories offer considerable help in understanding a company's use of debt. Specifically, the use of debt may reduce managerial discretion and mitigate conflicts of interest between management and the contributors of funds to the company (Haugen and Baker, 2006).

Moreover, as a consequence of separating ownership and management, shareholders have less information about the company than do managers. Ovtchinnikov (2010) puts forth that the value of debt as an information signal and a mechanism to control agency conflicts is the reason why companies sometimes increase their debt, even when there are no fiscal reasons for doing so. The benefits of issuing debt come from both tax shield and non-tax shield effects. Use of debt enables tax saving as a result of tax deduction. The higher a firms' leverage is, the higher the bankruptcy cost will be, and thus creditors will charge a higher interest rate. Moreover, the risk for a creditor is relatively high in this situation, which will lead to agency problems. When a firm's leverage remains at a low level, the tax shield benefits will surpass the cost, but as the debt rises, the cost will also rapidly increase. Therefore, the leverage generally has a negative effect on firm size.

2.2.2 Trade off Theory

Jensen and Meckling (1976) postulated that the specific costs of capital criterion ignore risk and impact on equity value and costs. The impact of financing decision on the overall cost of capital should be emulated and the criterion should be to minimize the overall cost

of capital or to maximize the value of the firm. Tax shield advantage of debt on account of interest tax deductibility leads to a favorable impact on value and would help reduce the overall cost of capital. It should however, be realized that a firm cannot continuously minimize its overall cost of capital by employing debt. A point or range is reached beyond which debt becomes more expensive because of the increased risk of excessive debt to creditors as well as the shareholders (Burgman, 2006).

According to Rajan and Zingales (1995) when the degree of leverage increases, the risk of creditors increases and they demand a higher interest rate which might inhabit the firm to access credit once the debt has accumulated to a certain level. Further, excessive use of financial leverage risk's the shareholders position. This has the effect of increasing the cost of equity. Thus, to a point that the overall cost of capital decreases with debt, but beyond that point the cost of capital would start increasing and, therefore, it would not be advantageous to employ debt further. There is a combination of debt and equity which minimizes the firm's average cost of capital and maximizes the market value per share.

Deis and Guffey (2005) posit that financial distress arises when the firm is not able to meet its financial obligation as and when the fall due. The firm's continuous failure to make payment to debt-holders can ultimately to the insolvency of the firm. For a given level of operating risk, financial distress exacerbates with higher debt. With higher business risk and higher debt the probability of financial distress is much greater. The degree of business risk of a firm depends on the degree of operating leverage. It is worth noting that firms operating in a highly competitive environment are exposed to higher operating risk which

is further aggravated if the firms are highly capital intensive and high proportion of fixed costs. Matured firms in relatively stable market conditions have lesser operating risk. Similarly, diversified firms with unrelated businesses are in better position to face fluctuating market conditions (Friend and Lang, 2008).

2.2.3 Pecking Order Theory

The pecking order theory was postulated by Myers (1984). This theory is based on the assertion that managers have more information about their firms than investors. This disparity of information is referred to as asymmetric information. Other things being equal, because of asymmetric information, managers will issue debt when they are positive about their firm's future prospects and will issue equity when they are unsure. A commitment pay to fixed amount of interest and principal to debt-holders implies that the company expects steady cash flows (Myers, 2001).

Frank and Goyal (2003) argue that an equity issue would indicate that the current share price is overvalued. Therefore, the manner in which managers raise capital gives a signal of their belief in their firm's prospect to investors. This also implies that firms always use internal finance when available, and choose debt over new issue of equity when external financing is required. Myers has called it the pecking order theory since there is not a well-defined debt-equity target, and there are two kinds of equity, internal and external, one at the top of the pecking order and one at the bottom. Debt is cheaper than the costs of internal and external equity due to interest deductibility. Internal equity is cheaper and easier to use

than external equity because no transactional costs and no taxes are paid on retained earnings.

Myers (2001) argued that, because of management's preference for internal financing, companies with a higher volume of internal financing resort to leverage less frequently than those with a lower level of internally generated resources. In this sense, the relationship between the level of debt and resources must be inverse (Haris and Raviv, 2003). The cost of debt is another factor to be considered when analyzing a company's level of debt. In addressing this factor, the actual interest rate on debt must not be taken into account, but also the overall amount of financial expense that the company sustains for the total volume of assumed debt, which is a fixed cost for the firm. Therefore, it is to be expected that this factor presents a negative aspect of debt (Baskin, 2002).

2.3 Determinants of Financial Leverage

Financial leverage is significantly related to firm size, profitability, and the uniqueness of the firm's line of business. Using international data, Rajan and Zingales (1995) report that the factors that are significant leverage determinants for US firms for example profitability, market-to-book ratio and sales, are similarly important in other developed countries. In a more recent study, Frank and Goyal (2003) the findings depicted that profitability, market-to-book ratio, and firm size, among others, are the most reliable factors in determining the financial leverage of the firm.

2.3.1 Profitability

Penman (2007) defines profitability as the ability to make profit from all the business activities of an organization, company, firm, or an enterprise. Maheshwari (2001) defined profitability as the final measure of economic success achieved by a company in relation to the capital invested. Firm which has high profitability will not depend excessively on external funding for its development, because profitability has a negative effect on leverage. Shaw (2003) argued that internal funds do not need to bear the issue cost and prevent the double taxation. For these reasons, using internal funds is better than relying on external capital.

2.3.2 Reserve Capacity

The flexibility of the capital structure also depends on the firm's debt capacity. The greater the debt capacity, the greater the availability of unused debt capacity and the greater the degree of flexibility. If a firm borrows to the limit of its capacity, it will not be in a position to borrow additional funds to finance unforeseen and unpredictable demands except at restrictive and unfavorable terms. Therefore a company should not borrow to the limit of its capacity, but keep available some unused capacity to raise funds in future to meet some sudden demand for finances (Schuster and O'Connell, 2006).

Although flexibility is most desirable, it is achieved at a cost. A company trying to obtain loans on easy terms will have to pay interest at a higher rate. Also, obtain the right of refunding; it may have to compensate lenders paying a higher interest. Therefore, the

company should compare the benefits and costs of attaining the desired degree of flexibility and balance them properly (Verrecchia, 1999).

2.3.3 Firm Size

Small firms, managers want to remain in control of their companies because they obtain private benefit over the financial return on their investment. They need to forgo some growth opportunities if the opportunities are too extensive to be realized and rely more on debt. The growth of small firms is more sensitive to internal finance than that of larger firms. Small firms are more likely to face financial constraints; this prevents them to gain access to finances from banks. These firms are prepared to pay higher interest rates for additional loans and thus fail to consider issuing external equity in order to stay in control (Shaw, 2003).

The size of the firm will determine its leverage (Hol and Wijst, 2008). Rajan and Zingales (1995) found that large firms are more diversified than small ones, and face lower risk. In addition, large firms have a low bankruptcy cost and are well known, which makes it easier to enter the stock market. When firms have the same profitability, the larger firm will have a relatively low level of debt. The problem of in-formation asymmetry is not as severe in big firms, and the information cost is also lower than for small firms. Moreover, large firms prefer to use equity capital rather than debt capital (Schuster and O'Connell, 2006).

2.3.4 Financial Leverage

Financial leverage affects the level and variability of the firm's after tax earnings and hence, the firm's overall risk and return. Operating leverage depends on fixed operating costs;

larger fixed operating costs indicates higher degree of operating leverage and thus, higher operating risk of the firm. High operating leverage is good when sales are rising but risky when the sales are falling (Kumar, 2007).

Kumar (2007) puts forward that total assets and sale turnover are commonly used as a substitute for the size of the firm. Larger firms not only enjoy a higher turnover and but also generate higher income. This is because they have better access to capital markets and lower cost of borrowing. Large firms are more likely to manage their working capitals more efficiently than small firms. Most large firms enjoy economies of scale and thus they are able to minimize their costs and improve on the profitability of the firm.

2.4 Empirical Review

Abdussalam (2006) examined the relationship of firm structure and profitability. The study considered major characteristics such as firm size, firm age, and debt ratio and ownership structure of 48 Jordanian industrial companies listed in Amman Stock Exchange for a period of one decade (1995 to 2004). The study employed two model specifications in order to test the hypotheses, using the profitability measurement of Rate of Return on Equity (ROE) and Rate of Return on Investment (ROI). The empirical findings suggest that firm structure emerges as an important factor affecting profitability. The results indicate that there was a positive relationship between firm size and profitability.

Abel (2008) investigated the nature and significance of firm size as a determinant of corporate financial leverage. The study used panel data fixed-effects regression model to

estimate the relationship between financial leverage and firm size, while controlling also the effects of other acclaimed determinants like asset tangibility, profitability and firm age. The dataset used covered 71 firms quoted in the Nigerian stock markets over a 17-year period (1990-2006). The study found that firm size is negatively and significantly related to financial leverage.

Li (2011) investigated the effects of firm size, financial leverage, and R&D expenditures on firm earnings. Using the quantile regression (QR) approach, the study analyzed S&P 500 firms from 1996 to 2005. The study found that the effects of firm size, financial leverage and R&D expenditures on firm earnings differ considerably across earnings quantiles. The study concluded that there exists a positive relationship between firm size and financial leverage.

Pouraghajan and Bagheri (2012) investigated on the impact of capital structure on the financial performance of companies listed in the Tehran Stock Exchange. The study tested a sample of 40 firms among the companies listed in the Tehran Stock Exchange. Results suggest that there is a significant negative relationship between debt ratio and financial performance of companies, and a significant positive relationship between asset turnover, firm size, asset tangibility ratio, and growth opportunities with financial performance measures.

Kithuka (2013) did a study on the relationship between firm size and financial innovation of firms listed at the Nairobi Securities Exchange. The study used a descriptive survey

research design. The study did a sample of 40 firms which were chosen using stratified random sampling. A regression model was used for analysis and the results showed that there was a positive relationship between the firm size and financial innovation of firms listed at the Nairobi Stock Exchange.

Mahfoudh (2013) studied the effect of selected firm characteristics on financial performance of firms listed in the agricultural sector at the Nairobi securities exchange. The study used a descriptive survey to find out the relationship between the variables. The study used sampled firms and a regression model was adopted for data analysis. The results of the analysis showed that there was a positive relationship between firm characteristics: size, age and growth with financial performance.

Mwangi (2014) investigated effect of capital expenditure on financial performance of firms listed at the Nairobi securities exchange. The study did a census study comprising of a total of 53 listed companies. A five year period was used (2009-2013) by way of a desk review of published company annual financial statements. A linear regression model was used to establish the relationship between capital expenditure and financial performance. The study concluded that capital expenditure, leverage and size of the firm positively and significantly affect financial performance.

Njoroge (2014) studied the effect of firm size on financial performance of pension schemes in Kenya. The study did a descriptive survey between the variables under investigation. The target population for this study was 30 occupational pension schemes in Kenya. The

research was carried out using secondary data. The data was collected from annual reports and financial statements. The analysis showed that there was a positive relationship between the firm size and financial performance. Further the results indicated that there was significant market volatility as evident from the NSE index, Treasury bill rate movement and offshore indices.

A study by Tale (2014) investigated on the relationship between capital structure and financial performance of non-financial firms listed at the Nairobi securities exchange in Kenya. The study used a descriptive survey. The population of the study consisted of all the 40 nonfinancial firms listed and duly registered with capital market authority of Kenya. Secondary data used was obtained mainly from the annual audited and published books of accounts, financial statements and the NSE. Data analysis was done by use of regression analysis model. However, the results showed that there was a negative relationship between financial performance and the size and growth of the firm.

Vithessonthi (2015) surveyed the effect of firm size on the leverage–performance relationship during the financial crisis of 2007–2009 in Thailand. From a data set of 496,430 firm-year observations of a sample of 170,013 mostly private firms, the study found that the magnitude of the effect of leverage on operating performance is non-monotonic and conditional on firm size. Panel regression results indicate that leverage has a negative effect on performance across firm size subsamples, year-by-year while cross-sectional regression results show that the effect of leverage on performance is positive for

small firms and is negative for large firms. Further, the findings observed that about 75% of Thailand firms have managed to get through the global financial crisis on the basis that they do not have to simultaneously deleverage and liquidate their assets.

2.5 Summary of the Literature Review

The literature shows that firm size influences use of financial leverage by firms. This is because large firms enjoy tax deduction and reputational advantage among prospective investors. Large firms are stable and thus can easily diversify their assets and enhance their capacity to qualify for debt by minimizing their risks. Most of the empirical studies have confirmed that there exists a positive relationship between firm size and use of financial leverage for example; Mahfoudh (2013), Li (2011), Abdussalam (2006), Njoroge (2014) and Mwangi (2014) among others. This conforms to the theories that support this study on the existence of a positive relationship between firm size and financial leverage of firms.

Although studies have examined the relationship between firm size and financial leverage; none of them have investigated the effect of firm size on financial leverage of firms listed in the Nairobi Securities exchange. This study therefore finds the need to investigate this relationship by finding an answer to the question: what is the effect of firm size on financial leverage of firms listed in the Nairobi Securities Exchange?

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

This chapter provides that methodology that will be used in this study. It provided a plan of the research design, target population, the sample size and the sampling techniques, the data collection techniques and tools as well as the techniques that were used to analyze the data to be collected.

3.2 Research Design

The study used a descriptive survey of listed firms at Nairobi Securities exchange in Kenya. The study adapted a descriptive research design because it provides clear and detailed description about a phenomenon that provided assistance in the refinement of the statement of the problem, construction of the hypothesis, data collection and analysis procedures (Singh and Nath, 2010). The design was useful in establishing the relationship between firm size and financial leverage of listed firms at Nairobi Securities Exchange.

3.3 Population and Sampling

Population refers to an entire group of individuals, events or objects having common characteristics that can be observed and measured (Yin, 2003). Currently there are 64 firms listed in the Nairobi Securities Exchange (See Appendix I). No sampling was carried out in the study. The study considered all the companies listed at NSE, expect for the financial

service firms because they are highly regulated by CBK and other regulatory bodies. Therefore their leverage is highly regulated.

3.4 Data Collection

The study used secondary data since the nature of the data is quantitative. Data collection is gathering empirical evidence in order to gain new insights about a situation and answer questions that prompt undertaking of the research (Kothari, 2004). The data was collected from audited financial statements of the listed firms at the Nairobi Securities Exchange for a period of five years (2010-2014). The period was considered sufficient for establishing the relationship between firm size and financial leverage of listed firms. Accessibility and availability of data within this period is appropriate for the researcher taking into account time and cost constraints.

3.5 Data Analysis

Mugenda and Mugenda (2005) indicate that data should be cleaned, coded and properly analyzed in order to obtain an accurate analysis. The data collected was sorted and organized before capturing it in Statistical Packages for Social Sciences (SPSS) for analysis. The accurately measure the parameters and accurately get data from the financial statements; financial leverage which is the dependent variable was measured using total debt, firm size which is the independent variable was measured using total assets, profitability which is a control variable was measured using return on asset and sales which is also a control variable was determined by obtaining the figure for sales from the profit and loss statements.

3.5.1 Analytical Model

A multiple regression model was used to determine the relationship between firm size and financial leverage of listed firms in the Nairobi Securities Exchange in Kenya. The study will make inferences from the previous works of Peterson and Rajan (1995) who adopted a regression model in establishing the relationship between the variables.

$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + e$

Y is financial leverage which is the dependent variable which will be measured using total debt

a =Y-intercept

b1, b2, b3, bn are the regression coefficients or parameters

$X_{1\ is}$ firm size which is an independent variable. This variable will be measured using logarithm of total assets.

Control variables are as follows;

X_2 is profitability which is a control variable. This variable will be measured using net income divided by total assets.

X_3 is sales which is a control variable. This variable will be determined by obtaining the sales turnover figure directlyfrom the profit and loss statement.

b is the slope of the regression; it measures the unit change in y associated with a unit change in x

e is the error term within a confidence interval of 5%

3.5.2 Tests of Significance

T-test was used to test the hypothesis that firm size is positively related to financial leverage of listed firms in Kenya. In this test, the null hypothesis assumes there is no relationship between firm size and financial leverage of listed firms in Kenya. The alternative hypothesis assumes that there is a positive relationship between firm size and financial leverage of listed firms in Nairobi securities Exchange. The level of significance will be expressed using p-values from the tests of coefficients. If the p-value(s) is more than 5% then the null hypothesis is true since this means that there is no statistically significant relationship between firm size and financial leverage of listed firms in Kenya.

Similarly, if the p-value is more than 5% then the alternative hypothesis is considered true since this means that there is a positive relationship between the variables. Coefficient of determination (R^2) was used to provide a measure of how well the observed outcome was replicated by the model, as the proportion of total variation of outcomes explained by the model. The correlation coefficient (R) varied from -1 to +1.A -1indicating that a perfect negative correlation and 1 indicates perfect positive correlation. The tests were performed at 95% degree of confidence.

CHAPTER FOUR

DATA ANALYSIS, FINDINGS AND DISCUSSION

4.1 Introduction

The chapter presents the outcome of data analysis and findings in line with the objectives of the Study. The general objective was to assess impact of firm size on the financial leverage of companies listed the NSE. The data were analyzed using the Statistical Program for Social Sciences (SPSS) version 20, by use of both descriptive and inferential statistics. Descriptive statistics such as minimum, maximum mean and standard deviation were used.

4.2 Descriptive Statistics

Descriptive measures involved mean, maximum, minimum, standard error of estimate, skewness and kurtosis. Mean is a measure of central tendency used to describe the most typical value in a set of values. The standard error is a statistical term that measures the accuracy within a set of values. Skewness is a measure of symmetry, or more precisely, the lack of symmetry. A distribution, or data set, is symmetric if it looks the same to the left and right of the center point. Kurtosis is a measure of whether the data are peaked or flat relative to a normal distribution (Cooper and Schindler 2008).

The pertinent results are presented in Table 4.1

Table 4.1: Descriptive statistics results of the main variables

	N Valid	Mean	Std. Deviation	Minimum	Maximum
Leverage	300	0.394364	0.211611	0.001	1.5844
Log of Assets	300	15.6151	1.99841	.0000	19.060
Return on Assets	300	0.192051	0.122210	-0.3404	0.5017
Sales(log)	300	1.334533	0.868506	1.1255	5.7723

Source: Research findings

The descriptive statistic in table 4.1 shows that the mean leverage for the listed companies was 0.3947364 and the maximum and minimum were .001 and 1.5844 respectively. The mean for return on assets was 0.192051 with a minimum and maximum of 0.5017 and -0.3404 respectively. The standard deviation for the return on assets was 0.12210. The mean for sales was 1.3345 with a minimum and maximum of 1.1255 and 5.7723 respectively. The standard deviation for the sales was 0.868506.The mean for assets was 2.050914 with a minimum and maximum of 1.0121 and 5.3218 respectively. The standard deviation for the assets was 1.042809.

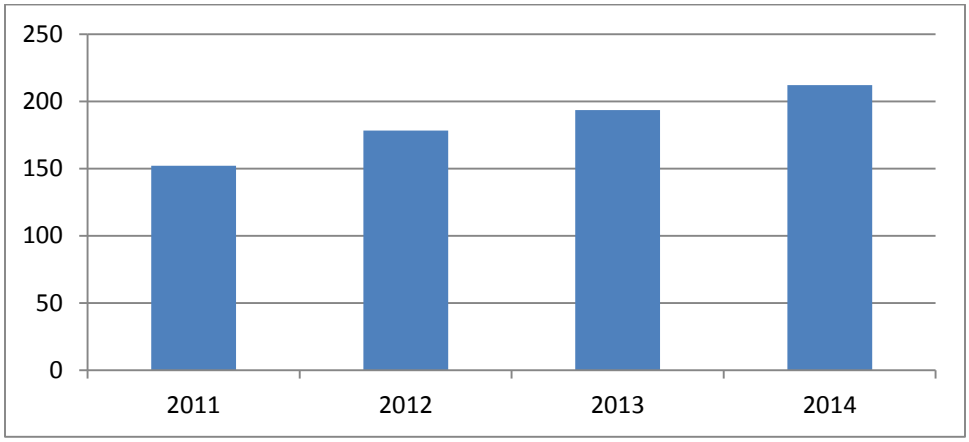
4.2.1 Financial Leverage

Table 4.2: Financial Leverage

Year	Leverage
2010	0.263101
2011	0.276251
2012	0.29713
2013	0.354941
2014	0.421531

From (table 4.2) it is evident that financial leverage for the companies listed at NSE has been on the rise since 2010 to 2014. In 2010 the debt equity ratio was 26.31%, 2011 the debt equity ratio was 27.251%, in 2012 it was 29.713%, in 2013 the financial leverage ratio was 35.49% and in 2014 it was 42.153%.

Figure 4.1: Financial Leverage



According to figure 4.1 above it is evident that financial leverage for the companies listed at NSE has been on the rise since 2010 to 2014. In 2010 the debt equity ratio was 26.31%, 2011 the debt equity ratio was 27.251%, in 2012 it was 29.713%, in 2013 the financial leverage ratio was 35.49% and in 2014 it was 42.153%.

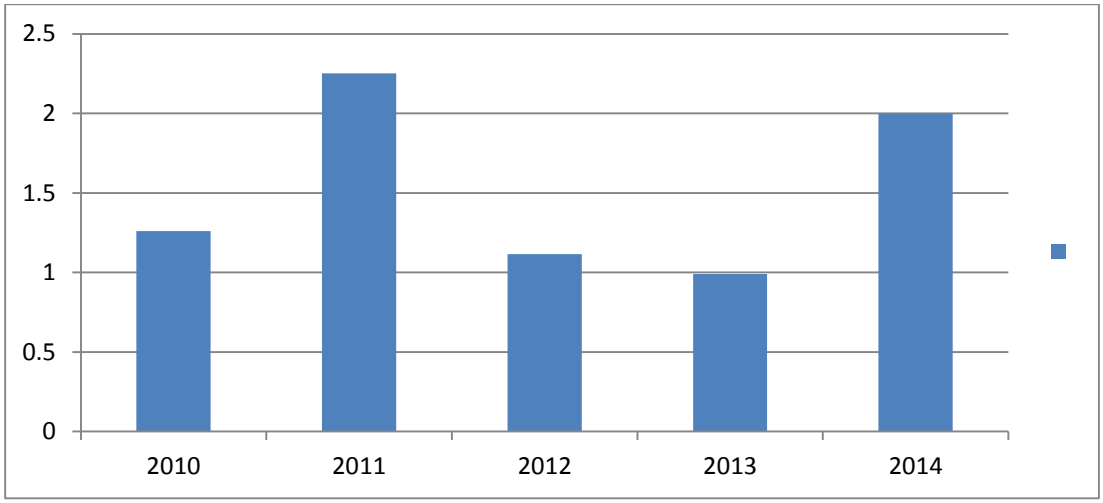
4.2.2 Return on Assets

Table 4.3Return on Assets

Year	Return on Assets
2010	1.2591
2011	2.2512
2012	1.1156
2013	0.9912
2014	1.9981

The analysis from Table 4.3 shows that the ROA of the companies listed at the NSE varies from year to year. In the 2013 the average ROA was at the lowest at 0.9912 and in 2011 the average ROA was the highest at 2.2512.

Figure 4.2 Returns on Assets



From the above figure it is evident that the return on assets for the companies listed at the NSE from 2010 to 2014 with the highest average return of assets being in 2011 and the lowest average ROA being in 2013.

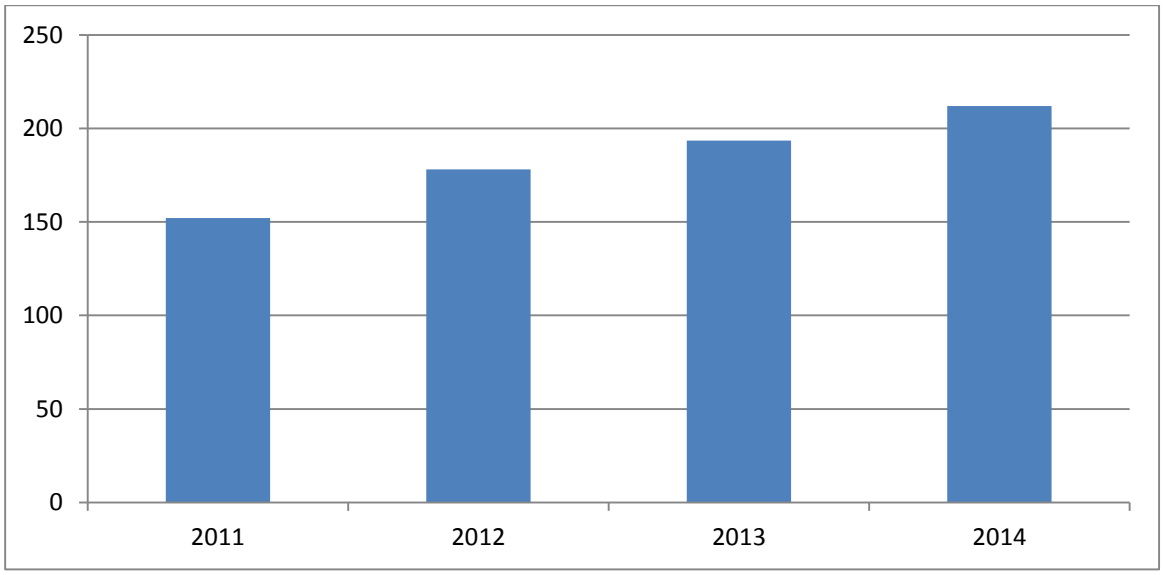
4.2.3 Sales Volume

Table 4.4: Average Sales Volume per Year

Year	Sales Volume Kshs Billions
2010	111.45
2011	152.11
2012	178.12
2013	193.40
2014	212.01

From the analysis above it is evident that the sales volumes for the companies listed at the NSE varies between Kshs 111.45 billion in 2010 to Kshs 212.01 billion in 2014. There has been a steady increase in sales volumes from 2010 to 2014. In 2010 the sales volume was Kshs 111.45 billion, Kshs 152.11 billion, Kshs 178.12 billion, Kshs 193.40 billion and Kshs 212.11.

Figure 4.3: Average Sales Volumes



From the above figure it is evident that the sales volumes for the companies listed at the NSE varies between Kshs 111.45 billion in 2010 to Kshs 212.01 billion in 2014. There has been a steady increase in sales volumes from 2010 to 2014. In 2010 the sales volume was Kshs 111.45 billion, Kshs 152.11 billion, Kshs 178.12 billion, Kshs 193.40 billion and Kshs 212.11.

4.3 Correlation Analysis

Pearson correlation was performed to determine the degree of relationship between the study variables.

Table 4.5 Pearson Product Correlation Coefficients (r)

	Leverage	Log of Assets	ROA	Sales Volume
Leverage	1			
Log of Assets	0.578	1		
ROA	-0.466	0.325	1	
Sales Volume	-0.388	0.258	0.398	1

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

Source: Research findings

There was a significant negative relationship between leverage and firm size as measured by log of assets($r= 0.578$, P-value < 0.05). The results also indicate a significant negative relationship between ROA and leverage ($r=-0.466$, P-value<0.05). This is an indication that if the firm use a lot of debt then there performance gets affected. Positive relationship between leverage and sales volume ($r=0.388$, P-value$<.05$). There is a negative relationship sales volume and leverage ($r=-0.388$, P-value$<.05$). The Pearson correlation coefficient above indicates the following relationships; there was a significant positive relationship between leverage and firm size. This implies that firm size determines the amount of

leverage the firm can take. The bigger the firm the higher the amount of debt they can be given by the financial institutions. The Pearson correlation coefficient above showed that there was a positive significant relationship between leverage and sales volume and that implies that this firm are able to utilize better the investments they have to sell more.

4.4 Regression Analysis

Regression analysis was used to determine the effect of firm size on the financial structure of firms listed at NSE.

Table 4.6 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.719[a]	.615	.467	.00251

a. Predictors: (Constant), Log of Assets, ROA, Sales Volume

The model summary (Table 4.4) indicated that there was a strong positive relationship between the dependent and the independent variables. The value of R Square was 0.615 indicating that 61.5 % of the changes in financial leverage (debt / equity) could be explained by the independent variables for the study (Firm size, profitability and Sales Volume).

Table 4.8 Analysis of Variance

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.367	3	.118	4.582	.025[a]
	Residual	.530	297	.011		
	Total	.897	300			

a. Predictors: (Constant), ROA, Sales Volume

b. Dependent Variable: Financial Leverage

The Analysis of Variance (ANOVA) reveal that composite effect of the three variables (firm size and sales volume) on the financial leverage of firms listed at NSE is significant as indicated by the P values (0.025) i.e. less than 0.05 and F value (4.582).

Table 4.9 Regression model

Model		Unstandardized Coefficients		Standardized Coefficients		
		B	Std. Error	Beta	T	Sig.
1	(Constant)	0.065	0.225		1.303	0.000
	Log of Assets	0.417	0.073	0.477	3.434	0.031
	ROA	-0.324	0.052	0.281	1.293	0.014
	Sales Volume	-0.224	0.052	0.281	3.392	0.017

a. Dependent Variable: Financial Performance (ROA)

The regression model becomes:

$$\mathbf{Y = 0.065 + 0.417X_1 - 0.324X_2\text{-}0.224X_3 + \epsilon t}$$

From the regression analysis Constant = 0.065, shows that if all the independent variables are all rated as zero, the leverage of listed companies at NSE. The level of confidence for the analysis was set at 95%. Therefore, the P- value less than 0.05 imply that the independent variable is significant. The regression results show that financial leverage of listed companies at NSE. However, the regression analysis shows that the firm size is positively impacted leverage (B=-0.417).Similarly, there was significant negative relationship between leverage and ROA.

The above analysis was conducted at 5% significance level. The criteria for comparing whether the predictor variables were significant in the model was done by comparing the corresponding probability value obtained; α=0.05. If the probability value was less than α, then the predictor variable was significant. From the model coefficients logarithm of assets and liquidity were found to be statistically significant in the model. This is because its p-value was less than 5%. These findings are consistent to the hypothesis of the study which predicted the existence of a statistically insignificant relationship between financial leverage and profitability of listed firms at Nairobi Securities Exchange.

4.5 Interpretation of the Findings

The descriptive results found that most listed firms utilized financial leverage because most listed firms had a stable asset base. However, the findings concluded that financial leverage did not contribute to profitability of listed firms; the financial performance of listed firms was 46.6% which is a moderate score.

The results of the Pearson's correlation concluded that there was a correlation between financial leverage and profitability of listed firms. The correlation score was found to be R is -.466. Similarly, it was discovered that there was a correlation between leverage and firm size of listed firms. The correlation score was found to be .578. There was a moderate correlation between sales volume and leverage of listed firms. The correlation score is -.388.

The regression results found that there was an inverse relationship between financial leverage and profitability of listed firms in the Nairobi Securities Exchange. Results suggest that there is a significant negative relationship between debt ratio and financial performance of companies. The findings depict that the logarithm of assets and sales volume were found to be statistically significant in the model. This is because its p-value was less than 5%. The results were as follows p=0.014 and p=0.017.

CHAPTER FIVE

SUMMARY, CONCLUSION AND RECOMENDATIONS

5.1 Introduction

The chapter provides the summary of the findings from chapter four, and it also gives the conclusions and recommendations of the study based on the objectives of the study. The objectives of this study were to investigate the effects of firm size on the financial leverage of listed companies at NSE.

5.2 Summary

The study investigated three dimensions of a firm's profitability, namely, financial leverage, firm size and sales volume. The descriptive results indicated that most listed firms utilized financial leverage as most listed firms had a stable asset base. However, the findings concluded that financial leverage did not contribute to profitability of listed firms. This was an indication that financial leverage did not contribute to profitability of listed firms. These findings are however consistent with Padron and Santana (2005) who assert that if a firm borrows more money from its creditors then the firm has to pay more amount of cost of debt to the creditor in terms of interest and this leads to less net income for the firm and hence lower profitability.

The findings of the Pearson's correlation concluded that there was no correlation between financial leverage and profitability of listed firms. The correlation score was found to be R is -.107. Similarly, it was discovered that there was no correlation between liquidity and

profitability of listed firms. The correlation score was found to be -.212. These findings are consistent to a study by Yuan and Kazuyuki (2011) who found that there was an inverse relationship between total debt and profitability of Chinese listed companies. It was also found that there was a moderate correlation between logarithm of assets and profitability of listed firms. The correlation score is -.547.

The regression results found that there was an inverse relationship between financial leverage and profitability of listed firms in the Nairobi Securities Exchange. These findings are consistent with a study by Pouraghajan and Bagheri (2012) who investigated the impact of capital structure on the financial performance of companies listed in the Tehran Stock Exchange. Results suggest that there is a significant negative relationship between debt ratio and financial performance of companies. The findings depict that the logarithm of assets and liquidity were found to be statistically significant in the model.

This is because its p-value was less than 5%. The results were as follows p=0.000 and p=0.001. These findings are consistent with Pouraghajan and Bagheri (2012) who found that there was a statistically significant relationship between asset turnover and liquidity of companies listed in the Tehran Stock Exchange. On the other hand, financial leverage was found to be statistically insignificant because its p-value at 0.512 was above 5%. These findings are consistent with a study conducted by Nduati (2010) that examined the relationship between leverage and financial performance of companies quoted at the Nairobi Securities Exchange. The findings concluded that leverage did not contribute to financial performance of firms quoted at the NSE. These findings are also consistent with

Adongo (2012) who studied the effect of financial leverage on profitability and risk of firms listed at the Nairobi Securities Exchange. The findings concluded that there was a significant relationship between returns adjusted by risk and financial leverage.

5.3 Conclusion

The findings revealed that firm size was correlated with financial leverage of listed firms in Kenya. The study therefore concludes that firms should consider enhancing their asset base so that they will be able to get debt financing. The assets were used as collaterals. On the other hand the study found out that financial leverage is negatively correlated with profitability of the firms listed at NSE. This is an indication that as the firms borrow more, financial distress comes into play therefore the firms' needs to consider using alternative methods of financing their projects other than relying on financial leverage. Financial leverage might lead to poor performance of firms due to excessive costs of financing debt that might override the returns obtained from investing in projects.

The results of the model coefficients estimates of the independent variables, found an inverse relationship with profitability of listed firms. The results indicated that liquidity and financial leverage depicted a negative relationship with profitability apart from the logarithm of assets that showed a positive relationship with profitability of listed firms in the Nairobi Securities Exchange. These findings are consistent with the hypothesis of this study which predicted a negative relationship between financial leverage and profitability of listed firms. It can therefore be concluded that financing firms using debt is costly and might expose the firm to financial difficulties.

From the regression model, the coefficient of determination was 27.4% showing the extent to which the variance of profitability was explained by the independent variables. This is an indication that the model used was a moderate predictor in explaining the relationship between financial leverage and profitability of listed firms in the Nairobi Securities Exchange.

5.4 Recommendations for Policy and Practice

The study recommends that listed firms should look for alternative ways of financing their projects other than using financial leverage. This is because from the results obtained it is evident that financial leverage does not contribute to profitability of the firm. There is a proportionate increase in the cost of debt represented by the interest rate payable to a firm's borrowing. This leads to less net income for the firm and hence lower profitability.

The study showed a positive relationship between the firm size and financial leverage. That implies the size of the firms do matter when it comes to debt financing. The listed companies should be concerned more with the quality or value added the assets they are acquiring.

5.5 Limitations of the Study

One of the limitations of this study is that it utilized secondary data sources and might not necessarily reflect the exact needs of the study. This might negatively affect the accuracy and reliability of the results and impact negatively on the findings drawn in this study.

Another limitation of this study is that it was limited to four variables only; financial leverage, firm size, profitability and liquidity. It is imperative to note that profitability is affected by many factors other than the ones confounders discussed in this study that have a bearing on profitability. Other factors considered, it would be important to establish whether the findings will hold or not after which conclusive results can be drawn.

5.6 Suggestions for Further Research

Although the study targeted to study 64 firms, only 58 firms were active in the NSE for the period under study. Due to time and cost constraints, only 47 firms were investigated in the study. The study recommends that future researchers interested in this field of research might consider investigating all the firms and increase the period of study to ten years. This will increase the scope of study and the findings obtained will be more conclusive. The results obtained can be compared with the findings obtained in this study then conclusions can then be drawn based on more concrete facts.

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APPENDIX 1: LIST OF FIRMS LISTED AT NSE

AGRICULTURAL

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

AUTOMOBILES & ACCESSORIES

8. Car & General (K) Ltd
9. Marshalls (E.A.) Ltd
10. Sameer Africa Ltd

BANKING

11. Barclays Bank of Kenya Ltd
12. CFC Stanbic of Kenya Holdings Ltd
13. Diamond Trust Bank Kenya Ltd
14. Equity Bank Ltd

15. Housing Finance Co.Kenya Ltd

16. I&M Holdings Ltd

17. Kenya Commercial Bank Ltd

18. National Bank of Kenya Ltd

19. NIC Bank Ltd

20. Standard Chartered Bank Kenya Ltd

21. The Co-operative Bank of Kenya Ltd

COMMERCIAL AND SERVICES

22. Express Kenya Ltd

23. Hutchings Biemer Ltd

24. Kenya Airways Ltd

25. Longhorn Kenya Ltd

26. Nation Media Group Ltd

27. Scangroup Ltd

28. Standard Group Ltd

29. TPS Eastern Africa Ltd

30. Uchumi Supermarket Ltd

CONSTRUCTION & ALLIED

31. ARM Cement Ltd

32. Bamburi Cement Ltd

33. Crown Paints Kenya Ltd

34. E.A.Cables Ltd

35. E.A.Portland Cement Co. Ltd

ENERGY & PETROLEUM

36. KenGen Co. Ltd

37. KenolKobil Ltd

38. Kenya Power & Lighting Co Ltd

39. Kenya Power & Lighting Ltd 4% Pref 20.00

40. Kenya Power & Lighting Ltd 7% Pref 20.00

41. Total Kenya Ltd

42. Umeme Ltd

INSURANCE

43. British-American Investments Co.(Kenya) Ltd

44. CIC Insurance Group Ltd

45. Jubilee Holdings Ltd

46. Kenya Re Insurance Corporation Ltd

47. Liberty Kenya Holdings Ltd

48. Pan Africa Insurance Holdings Ltd

INVESTMENT

49. Centum Investment Co Ltd

50. Olympia Capital Holdings Ltd

51. Trans-Century Ltd

INVESTMENT SERVICES

52. Nairobi Securities Exchange Ltd Ord 4.00

MANUFACTURING & ALLIED

53. A.Baumann & Co Ltd

54. B.O.C Kenya Ltd

55. British American Tobacco Kenya Ltd

56. Carbacid Investments Ltd

57. East African Breweries Ltd

58. Eveready East Africa Ltd

59. Kenya Orchards Ltd

60. Mumias Sugar Co. Ltd

61. Unga Group Ltd

TELECOMMUNICATION & TECHNOLOGY

62. Safaricom Ltd

GROWTH ENTERPRISE MARKET SEGMENT (GEMS)

63. Flame Tree Group Holdings Ltd Ord 0.825

64. Home Afrika Ltd

Source: NSE (2014)

APPENDIX II: FINANCIAL DATA FOR LISTED COMPANIES

KAKUZI - 1	2010	2011	2012	2013	2014

Financial Leverage effect(TL/TA)	0.34	0.31	0.28	0.22	0.22
ROA(NI/TA)	0.12766003	0.0412346	0.33035058	0.15361	0.361367
Firm size effect(LNTA)	14.87	14.98	15.16	15.09	15.13
EAAGADS - 02					
Financial Leverage effect(TL/TA)	0.25	0.3	0.25	0.16	0.2
ROA(NI/TA)	0.13931136	0.1376066	0.05629291	0.013908	0.038333
Firm size effect(LNTA)	12.47	12.53	12.78	13.26	13.12
KAPCHORUA TEA - 03					
Financial Leverage effect(TL/TA)	0.41	0.45	0.38	0.42	0.38
ROA(NI/TA)	1.01068056	4.340312	0.16021744	0.318189	0.038333
Firm size effect(LNTA)	13.97	14.22	14.27	14.49	14.55
LIMURU TEA-04					
Financial Leverage effect(TL/TA)	0.34	0.25	0.22	0.24	0.16
ROA(NI/TA)	0.07376946	0.1052401	0.14861985	0.038031	0.171714
Firm size effect(LNTA)	11.35	11.97	12.16	12.68	13.26
REA VIPINGO - 05					
Financial Leverage effect(TL/TA)	0.31	0.42	0.36	0.28	0.25
ROA(NI/TA)	0.06411035	0.2417681	0.0511335	0.039721	0.011016
Firm size effect(LNTA)	14.16	14.35	14.64	14.68	14.84
SASINI - 06					
Financial Leverage effect(TL/TA)	0.29	0.28	0.29	0.28	0.3

ROA(NI/TA)	0.03506332	0.1418446	0.22574588	0.117973	0.106374
Firm size effect(LNTA)	15.89	16.02	16.06	16	16.02
WILLIAMSON - 07					
Financial Leverage effect(TL/TA)	0.33	0.35	0.29	0.32	0.27
ROA(NI/TA)	0.06520726	0.0085179	0.04709468	0.202253	0.054975
Firm size effect(LNTA)	15.18	15.49	15.61	15.8	15.9
CAR&GENERAL - 08					
Financial Leverage effect(TL/TA)	0.59	0.6	0.65	0.62	0.64
ROA(NI/TA)	0.07583452	0.0897654	0.045673	0.08605	0.038333
Firm size effect(LNTA)	14.98	15.17	15.53	15.56	15.75
CMC HOLDINGS - 09					
Financial Leverage effect(TL/TA)	0.6	0.63	0.65	0.56	0.53
ROA(NI/TA)	0.10877572	0.0918055	0.05885937	0.081555	0.036607
Firm size effect(LNTA)	16.4	16.5	16.5	16.38	16.32
MARSHALLS E.A. - 10					
Financial Leverage effect(TL/TA)	0.67	0.88	0.63	0.31	0.45
ROA(NI/TA)	0.10877572	0.0918055	0.05885937	0.081555	0.036607
Firm size effect(LNTA)	14.18	13.93	13.89	13.25	13.15
SAMEER GROUP - 11					
Financial Leverage effect(TL/TA)		0.24	0.28	0.32	0.27
ROA(NI/TA)		0.0980098	0.10425597	0.066812	0.095582
Firm size effect(LNTA)	14.92	14.86	14.95	15.04	15.12

EXPRESS KENYA LTD - 12					
Financial Leverage effect(TL/TA)	0.68	0.71	0.46	0.6	0.59
ROA(NI/TA)	0.07717125	0.093799	0.54786	-0.10948	-0.20948
Firm size effect(LNTA)	14.08	14.11	13.55	13.11	13.08
KQ - 13					
Financial Leverage effect(TL/TA)	0.77	0.73	0.71	0.7	0.75
ROA(NI/TA)	0.07526565	0.0424968	0.05473956	0.052365	0.038333
Firm size effect(LNTA)	18.13	18.11	18.18	18.16	18.63
LONGHORN - 14					
Financial Leverage effect(TL/TA)	0.34	0.43	0.43	0.6	0.44
ROA(NI/TA)	0.07965084	0.0535708	0.28445326	0.021438	0.038333
Firm size effect(LNTA)	12.97	13.17	13.47	13.4	13.44
NATION MEDIA - 15					
Financial Leverage effect(TL/TA)	0.28	0.32	0.31	0.31	0.28
ROA(NI/TA)	0.19058894	0.2679858	0.17894718	0.036336	0.061016
Firm size effect(LNTA)	15.7	15.89	15.99	16.18	16.25
SCAN GROUP - 16					
Financial Leverage effect(TL/TA)	0.4	0.55	0.49	0.43	0.36
ROA(NI/TA)	0.05381389	0.0281204	0.02403531	0.045591	0.069792
Firm size effect(LNTA)	15.18	15.9	15.95	15.94	16.36
STANDARD GROUP - 17					

Financial Leverage effect(TL/TA)	0.58	0.54	0.53	0.47	0.51
ROA(NI/TA)	0.08092432	0.0617275	0.22112635	0.235104	0.047772
Firm size effect(LNTA)	14.92	15.01	15.07	15.07	15.24
TPS SERENA GROUP - 18					
Financial Leverage effect(TL/TA)	0.42	0.37	0.39	0.39	0.32
ROA(NI/TA)	0.08092432	0.0617275	0.22112635	0.235104	0.047772
Firm size effect(LNTA)	15.76	16.29	16.39	16.42	16.6
UCHUMI - 19					
Financial Leverage effect(TL/TE)	1.07	0.51	0.43	0.46	0.48
ROA(NI/TA)	0.07526565	0.0424968	0.05473956	0.052365	0.038333
Firm size effect(LNTA)	14.71	14.96	15.2	15.41	15.53
ATHI RIVER MINING - 20					
Financial Leverage effect(TL/TA)	0.66	0.7	0.7	0.74	0.72
ROA(NI/TA)	0.151	-0.02	0	-0.07	0.15
Firm size effect(LNTA)	16.31	16.62	16.84	17.11	17.21
BAMBURI - 21					
Financial Leverage effect(TL/TA)	0.35	0.35	0.28	0.28	0.27
ROA(NI/TA)	0	0.222218008	0.113434639	0.085387	0.095216
Firm size effect(LNTA)	17.28	17.32	17.33	17.58	17.58
CROWN PAINTS - 22					
Financial Leverage effect(TL/TA)	0.55	0.54	0.52	0.48	0.54

ROA(NI/TA)	0.046440801	0.046349584	0.058230927	0.059135	0.072602
Firm size effect(LNTA)	14.44	14.49	14.61	14.63	14.9
EAST AFRICAN CABLES - 23					
Financial Leverage effect(TL/TA)	0.53	0.5	0.54	0.53	0.55
ROA(NI/TA)	0.083545301	0.040688777	0.063033844	0.083548	0.091756
Firm size effect(LNTA)	15.08	15.32	15.42	15.65	15.73
EAST AFRICAN PORTLAND - 24					
Financial Leverage effect(TL/TA)	0.49	0.53	0.58	0.67	0.56
ROA(NI/TA)	0.15238116	0.032655358	0.017843436	0	0.065922
Firm size effect(LNTA)	16.3	16.3	16.41	16.45	16.6
KENGEN - 25					
Financial Leverage effect(TL/TA)	0.41	0.53	0.57	0.57	0.61
ROA(NI/TA)	0.018335553	0.021827426	0.01292055	0.017301	0.027827
Firm size effect(LNTA)	18.54	18.83	18.9	18.91	19.06
KENOL/KOBIL - 26					
Financial Leverage effect(TL/TA)	0.67	0.63	0.75	0.8	0.76
ROA(NI/TA)	0.09680441	0.0264158	-0.0291893	0.060904	0.016998
Firm size effect(LNTA)	17.2	17.23	17.64	17.3	17.15
KPLC - 27					
Financial Leverage effect(TL/TA)	0.62	0.64	0.67	0.68	0.73
ROA(NI/TA)	0.018335553	0.021827426	0.01292055	0.017301	0.027827
Firm size effect(LNTA)	18.09	18.2	18.6	18.71	18.99

TOTAL KENYA - 28					
Financial Leverage effect(TL/TA)	0.72	0.68	0.74	0.57	0.62
ROA(NI/TA)	0.02	0.03	0	-0.01	0.03
Firm size effect(LNTA)	17.27	17.23	17.38	17.31	17.5
CENTUM - 29					
Financial Leverage effect(TL/TA)	0.04	0.05	0.22	0.13	0.28
ROA(NI/TA)	0.11968666	0.1654789	0.1406176	0.046215	0.222479
Firm size effect(LNTA)	15.7	15.93	16.33	16.26	16.76
OLYMPIA - 30					
Financial Leverage effect(TL/TA)	0.29	0.39	0.4	0.43	0.43
ROA(NI/TA)	1.09034822	1.7388818	2.79678248	0.117786	0.038333
Firm size effect(LNTA)	13.58	13.79	13.89	14.44	14.46
TRANSCENTURY- 31					
Financial Leverage effect(TL/TA)	0.6	0.53	0.7	0.66	0.66
ROA(NI/TA)	0.14606199	0.2729494	0.23476437	0.099206	0.103232
Firm size effect(LNTA)	15.98	16.23	16.93	16.9	16.99
NSE-32					
Financial Leverage effect(TL/TA)	0.13	0.15	0.1	0.44	0.36
ROA(NI/TA)	0.20033039	0.1667232	0.16333995	0.03455	0.124608
Firm size effect(LNTA)	12.62	12.91	13.07	13.69	13.95
BOC KENYA-33					

Financial Leverage effect(TL/TA)	0.24	0.26	0.27	0.27	0.21
ROA(NI/TA)	0.077402395	0.039279437	0.082895063	0.099206	0.076957
Firm size effect(LNTA)	14.44	14.46	14.41	14.51	14.78
BAT-34					
Financial Leverage effect(TL/TA)	0.56	0.54	0.53	0.53	0.55
ROA(NI/TA)	0.140093067	0.158901794	0.225282343	0.24616	0.219222
Firm size effect(LNTA)	16.17	16.22	16.44	16.54	16.65
CARBACID-35					
Financial Leverage effect(TL/TA)	0.15	0.14	0.16	0.18	0.13
ROA(NI/TA)	0.186269054	0.20327927	0.173676785	0.193404	0.215724
Firm size effect(LNTA)	14.13	14.23	14.37	14.52	14.61
EABL-36					
Financial Leverage effect(TL/TA)	0.35	0.38	0.46	0.84	0.86
ROA(NI/TA)	0.02682845	0.0143603	0.15530312	0.409461	0.026276
Firm size effect(LNTA)	17.39	17.46	17.72	17.82	17.89
EVEREADY-37					
Financial Leverage effect(TL/TA)	0.6	0.66	0.73	0.7	0.58
ROA(NI/TA)					
Firm size effect(LNTA)					
KENYA ORCHARDS-38					
Financial Leverage effect(TL/TA)	1.02	1.01	1	1	0.96

ROA(NI/TA)	-0.02	-0.01	0	0	0.04
Firm size effect(LNTA)	18.18	18.13	18.07	18.05	18.07
MUMIAS-39					
Financial Leverage effect(TL/TA)			0.38	0.43	0.51
ROA(NI/TA)			0.02166631	0.083548	0.048276
Firm size effect(LNTA)			16.95	17.13	17.12
UNGA LTD-40					
Financial Leverage effect(TL/TA)	0.43	0.34	0.34	0.38	0.47
ROA(NI/TA)	0.14964667	0.0823855	0.22545921	0.348471	-0.08312
Firm size effect(LNTA)	15.53	15.44	15.56	15.67	15.91
SAFARICOM-41					
Financial Leverage effect(TL/TA)	0.44	0.4	0.41	0.41	0.38
ROA(NI/TA)	0.10685473	0.0934247	0.08246009	0.026287	0.190102
Firm size effect(LNTA)	18.33	18.46	18.55	18.62	18.67
Barclays Bank-42					
Total Debt	0.82	0.51	0.82	0.83	0.84
ROA	0.036943139	0.06147377	0.048572404	0.047293	0.036873
Size	24	26	26	26	26
Cooperative Bank-43					
Total Debt	0.86	0.87	0.88	0.85	0.84
ROA	0.026816531	0.029674936	0.031881268	0.038507	0.039393

Size	18.52	18.85	18.94	19.12	19.26
Diamond Trust Bank-44					
Total Debt	0.88	0.88	0.89	0.86	0.86
ROA	0.020312743	0.029690966	0.027807955	0.030031	0.031412
Size	18.01	18.24	18.49	18.72	18.93
Equity-45					
Total Debt	0.77	0.82	0.83	0.82	0.81
ROA	0.041998953	0.049863089	0.0526005	0.049678	0.047808
Size	25.33	25.69	26	26.21	26
HFCK-46					
Total Debt	0.78	0.85	0.85	0.87	0.87
ROA	0.012839048	0.012962834	0.019524949	0.018149	0.021
Size	23	24	24	24	24
KENYA REINSURANCE CORPORATION-47					
Total Debt	0.61	0.61	0.61	0.38	0.64
ROA	0.088589862	0.089403013	0.100258682	0.117786	0.106313
Size	23	23	23	23	24