

# The Influence of Firm- Specific Factors on Capital Structure of Insurance Industry in Kenya

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**Abstract-** Capital structure has been one of the most controversial issues in the field of finance during past years. There are a number of existing theories and empirical studies observing patterns involved in choosing a capital structure, however until now, there is no universal one. The purpose of the study was to carry out empirical test, to determine the influence of firm specific factors as suggested by various theories on the optimal capital structure of Kenyan insurance firms. The study population involved all the registered insurance firms, the research targeted firms that had a continuous operation between 2003 and 2012 and the analysis was based on the year-end observations for ten consecutive years. The study used panel data methodology and two independent variables profitability and growth were analyzed as the firm specific determinants of optimal capital structure which was used as the dependent variable, the relationship between independent variable and the dependent variable was moderated by the management control. Regression analysis was done using the statistical package (EViews version 8) to establish the relationship between independent and dependent variables. However with moderation of the management control profitability was found to be significant. The moderator and the interaction between the moderator and profitability were found to be significant. These results were found to agree with the proponents of Agency theory in as far as the influence of the management is concerned.

**Index Terms-** profitability, Growth, Management control and capital structure

## I. INTRODUCTION

The capital structure decision is very important for insurance companies. The nature of insurance business is to provide protection to policyholders in times of accident through the minimization of loss (Tornyeva2013). As a result of this function, insurance companies have always been concerned with both solvency and liquidity. Kingsley Tornyeva (2013) argued that In order to manage risks, insurance firms must have effective ways of determining the appropriate amount of capital that is necessary to absorb unexpected losses arising from insurance claims and other operational risk exposures.

Capital structure has been one of the most controversial issues in the theory of finance during past 40 years and now still there is no universal theory of the debt-equity choice, and no reason to expect one (Myers, 2001). The modern theory of capital structure began with the celebrated paper of Modigliani and Miller (1958, hereafter M&M). They argued that in the existence of a perfect financial market, capital structure is

irrelevant to firms' value. Since then, many economists have followed the path they mapped. Some years later, DeAngelo and Masulis (1980), Kim (1986) and Modigliani (1982) further reconcile Miller's equilibrium with the existence of capital structure and they generate a result that the firm's capital structure will involve the static trade-off between the tax advantage of debt and various leverage-related costs. In contrast, the pecking order theory from Donaldson (1961) contends that managers raise new finance in a particular sequence. The main proponent of this theory more recently has been Myers (1984) and the implication is that there is no capital structure because capital structure is simply the accumulation of past shortages of internal cash flow.

The financial literature offers two competing models of financial decisions: static trade-off and pecking order theory. In the trade-off model, firms identify their optimal leverage by weighting the costs of financial distress and the tax benefits. At the optimal leverage level, the benefit of the last unit of debt just offsets the cost. In contrast, pecking order theory arises due to the existence of asymmetric information and transaction costs. In this theory, firms raise funds in a particular sequence and follow two rules. Firstly, corporations prefer internal financing than external ones. Secondly, firms always issue the safest securities first.

Agency theory focuses on the costs which are created due to conflicts of interest between shareholders, managers and debt holders. According to this theory capital structures are determined by agency costs, which includes the costs for both debt and equity issue. This shows that theories of capital structure have been resulting in different conclusions. Similarly, the findings of prior empirical studies have provided varying evidence related to the determinants of capital structure. Besides, Buferna et al. (2005) provided evidence that trade-off and agency theories are pertinent theories of the capital structure to a developing country. To sum up, it is always too simplistic to say one theory is superior to another. Each type of model is particularly good for certain explanations as has been argued by conflicting empirical studies. Either one is good at explaining certain issues and has obtained a number of empirical supports. More appropriately speaking, pecking order theory, Agency and trade-off theories act as complements rather than substitutes.

Local studies (Kamere, 1997; Omondi, 1996; Odinga, 2003) constitute important steps towards more realistic tests of determinants of capital structure. However, these studies have not captured the concept of capital structure. Some studies have focused more on testing the pecking order hypothesis. Kiogora (2000) for instance using regression model finds a negative relationship between returns of firms quoted on the Nairobi Stock Exchange and their level of leverage; consistent with the

pecking order prediction. Omondi (1996) using multiple regression model finds that firms with high return on investment use relatively high debt. Gachoki (2005) finds that firms listed on the NSE follow the pecking order theory of capital structure.

A more recent study carried out by Ngugi (2008) investigated capital financing behaviour of firms listed on the Nairobi Stock Exchange. The results show that a pecking order model with an adjustment process cannot be rejected. Specifically, the study finds that the main determinants of capital financing behaviour consist of information asymmetries, non-debt tax shields and local capital market infrastructure. More studies needed to be done locally to test whether firms in Kenya have an optimal debt ratio, has been the common recommendation by all the researchers that have done this field locally. Local studies have somewhat ignored testing of the influence of determinants of capital structure in the insurance industry. It is this gap that the study sought to fill.

### 1.2. Statement of the problem

In order to manage risks, insurance firms must have effective ways of determining the appropriate amount of capital that is necessary to absorb unexpected losses arising from insurance claims and other operational risk exposures (Tornyeva 2013). The capital structure decision is very important for insurance companies, this is because of the need to maximize returns to shareholders and other stakeholders and Also, the impact it would have on the Organization's cost of capital and its ability to deal with its competitive environment (Keown et al. 2005), pointed out.

Although several studies have been done on the determinants of capital structure of the companies listed on the Nairobi Securities Exchange, important questions remain about what determines the choice of capital structure for firms in different sectors. Kinyua (2005) established that profitability, company size, asset structure, management attitude towards risk and lenders' attitude towards the company are key determinants of capital structure for small and medium enterprises in Kenya. Kuria, (2010) conducted a study on the determinants of capital structure of firms listed in the NSE and established that profitability and asset structure are the only determinants of capital structure. Turere (2012) examined determinants of capital structure in energy and petroleum sector and concluded that company size, age of company, growth rate and ownership structure are the key determinants of capital structure.

While studies that have been done locally (Kinyua, 2005; Kuria, 2010; Turere, 2012) constitute important steps towards more realistic tests of determinants of capital structure, they still remain silent on concept of target leverage. Little is also known about the influence Management control may have as a moderating variable on the relationship between profitability and firm's growth and capital structure, especially for the insurance industry in Kenya. This study seeks to explore how the capital structure is set and the influence of firm management control as a moderating factor may have on the capital structure of the insurance industry in Kenya.

### 1.3. General Objective

To measure the influence of firm profitability and growth on capital structure of the insurance industry in Kenya.

### 1.4. Specific objectives

1. To determine the influence of profitability on capital structure of the insurance industry in Kenya.
2. To measure the influence of growth on capital structure of the insurance industry in Kenya
3. To determine the moderating influence of management control on capital structure of the insurance industry in Kenya

### 1.5. Hypothesis

H<sub>01</sub>: There is no significant relationship between profitability and capital structure of insurance firms in Kenya

H<sub>02</sub>: There is no significant relationship between growth and capital structure of insurance firms in Kenya..

H<sub>03</sub>: There is no significant moderating effect of management control on capital structure of insurance firms in Kenya.

### 1.6. Scope of the study

The scope of this study covered the influence of profitability and growth and capital structure of the insurance industry in Kenya, these determinants are highlighted by various theories and empirical studies reviewed in chapter two. The period of study was between 2003 and 2012 this period was identified in order to capture most recent data on the insurance firms. This research studied all insurance firms in Kenya including the six quoted insurance firms; the study however did not cover the ten insurance firms that collapsed as their data was not available for the ten year period.

### 1.7. Justification for the study

The findings of this study will be beneficial to the following constituencies, future researchers, the regulator (IRA), the investors through the Nairobi securities exchange (NSE) mechanism and the insurance firms. To the future researchers the findings generated by this research will form the basis for further research by interested scholars, by providing background information and leads to areas that need further research. To the regulator (IRA) the findings of this research will be important to the regulator to help understand the motives behind various financing decisions made by insurance firms, and the potential consequences of those decisions to the vulnerable groups like the clients (policyholders) and the investors. This will enable the regulator to design policies and rules that will help protect the interests of these vulnerable groups. To the investor and NSE the research findings will provide useful information to NSE that will be beneficial to the investors when making their critical investment decisions. And finally the Listed insurance firms the research findings will also be of benefit to the listed firms as it will provide knowledge on the competitive environment. And provide knowledge that will help the firms' fine tune their financial decisions to enhance their position in the market.

### 1.8 Limitations of the Study

1. One of the major limitations encountered in the study was some companies had not filed all their 10years financial returns with the regulator as required and therefore data for some years was missing for those companies. The researcher had to visit some of the firms to get this important financial information however two

firms were reluctant to give this information until the researcher sort the intervention of the regulator.

2. The study used the secondary data from insurance regulatory authority; this data may contain some errors which might eventually affect the results and the methodology.
3. 10 companies were not included in the study because they either started later than 2003 or collapsed before 2012 and therefore information about them was not complete and could not be included for the study.

## II. LITERATURE REVIEW

### Introduction

This chapter presents the existing relevant literature on tripartite consultation. Specifically, it covers theoretical review, conceptual framework, empirical review, critical review and research gaps. Finally, the summary of the chapter is presented.

### Theoretical Review

#### Modigliani and Miller Propositions

Modigliani and Miller (1958) argued that capital structure is irrelevant to the value of a firm under perfect capital market conditions with no corporate tax and no bankruptcy cost. This implies that the firm's debt to equity ratio does not influence its cost of capital. A firm's value is only determined by its real asset, and it cannot be changed by pure capital structure management. Consequently, it means that there is no optimal capital structure.

However, there is a fundamental difference between debt financing and equity financing in the real world with corporate taxes. Dividends paid to shareholders come from the after tax profit. By contrast, interest paid to bondholders comes out of the before-tax profits. Thus, Miller and Modigliani (1963) argued that in the presence of corporate taxes, a value-maximizing company can obtain an optimal capital structure. In other words, if the market is not perfect, as result of, say, the existence of taxes, or of underdeveloped financial markets, or of inefficient case, firms must consider the costs entailed by these imperfections. A proper decision on capital structure can be helpful to minimize these costs.

#### Static Trade-off Theory

Under the M&M theory, capital structure is irrelevant to firm's value. Corporate income taxes, viewed in isolation, give firms a strong incentive to use leverage. There are two forms of bankruptcy costs: direct and indirect (Megginson et al, 2007). Direct costs of bankruptcy are out-of-pocket cash expenses directly related to bankruptcy filing and administration. Document printing and filing expenses, as well as professional fees paid to lawyers, accountants, investment bankers, and court personnel are all direct bankruptcy costs. Indirect costs of bankruptcy are expenses that result from bankruptcy but are not cash expenses sent on the process itself. These costs include the diversion of management's time, lost sales during and after bankruptcy, constrained capital investment and R&D spending, and the loss of key employees.

Although indirect bankruptcy costs are difficult to measure, researchers have shown that they are significant. Many empirical studies indicates that relative to the pre-bankruptcy market value

of large firms, direct costs are too small, comparing indirect costs, to provide an effective threat to the use of debt Warner (1977). He cautions that the costs are not small enough to be neglected completely in discussion of capital structure policy. Warner's work was criticized by Altman (1984) in the aspect that his results are based on a narrowly defined bankruptcy cost definition (lack of indirect bankruptcy costs) and the small sample size could not provide a whole picture. Clearly, the cost of financial distress and bankruptcy significantly influence capital structure decision in complex ways. Myer (1984) asserts that a firm's optimal debt ratio is usually viewed as determined by a trade-off of the costs and benefits of borrowing, holding the firm's assets and investment plans constant.

### Pecking Order Theory

The pecking order theory suggests that firms have a particular preference order for capital used to finance their businesses (Myers, 1984). Owing to the preference of information asymmetries between the firm and potential financiers, the relative costs of finance vary between the financing choices. Where the funds provider is the firm's retained earnings, meaning more information than new equity holders, the new equity holders will expect a higher rate of return on capital invested resulting in the new equity finance being more costly to the firm than using existing internal funds. Thus, the firm will prefer retained earnings financing to debt, short-term debt over long-term debt and debt over equity (Amidu, 2007). According to Myers & Majluf (1984), the capital structure of a firm can help mitigate inefficiencies in a firm's investment program that are caused by information asymmetries.

They proved that managers use private Information to issue risky securities when they are overpriced and because market participants lack relevant information, it would lead to mispriced equity. According to Myers (1984), the capital structure of a firm reflects the accumulation of past financial requirement. The pecking order explains why most high profit making firms go in for less external funds because they have large retained earnings compared to less profitable firms who depend more on external funds because they have less retained earnings. These firms however, prefer debt to equity because of lower floatation and information cost. Therefore, there is no well-defined optimal leverage, because there are two kinds of equity, internal and external, one at the top of the pecking order and one at the bottom (Bauer, 2004). Kiogora (2000) undertook a research to establish the nature of capital structures employed by listed firms in NSE. She established that listed firms follow pecking order arguments in setting their capital structures

### Agency cost theory

The use of debt in capital structure of the firm also leads to agency cost. Agency cost arises as a result of the relationships between shareholders and managers and those between debt holders and shareholders (Jensen & Meckling, 1976). According to Harris & Raviv (1990), the conflict between shareholders and managers arises because shareholders hold the entire residual claim and consequently managers do not capture the entire gain from the profit enhancing activities but they do bear the entire cost of these activities. Separation of ownership and control may result in managers exerting insufficient work, indulging in

perquisites, choosing inputs and outputs that suit their own preferences (Abor & Biekpe, 2005). The conflict between debt-holders and shareholders is caused by moral hazard (Abor & Biekpe, 2005). The conflict arises because equity-holders have an incentive to invest sub optimally in very risky projects (Jensen & Meckling, 1976). This is because equity-holders stand the greater chance of benefiting massively if the investment yield good result. However, in the unlikely event of the investment failing, debt-holders bear the majority of the consequences (Brander & Lewis, 1986). Jensen & Meckling (1976), defined agency costs as the sum of the monitoring expenditures by the principal, bonding costs by the agent and a residual loss.

## 2.3 Empirical review

### Capital Structure

The firm's mix of different securities is known as capital structure, Robb and Robinson (2010). Bradley, Jarrell, Kim, (1983). A firm can issue dozens of distinct securities in countless combinations that maximizes its overall market value. It is important to ask ourselves whether these attempts to affect its total valuation and its cost of capital by changing its financial mix, are worthwhile. Capital structure is the balancing of finance within a firm by using either debt or equity or both in a particular ratio Fama and Miller (1972), Berkovitch and Kim (1990), Ferry M, W, Jones . As espoused by Miller and Modigliani (1958) (pg 262), 'the cost of capital is equal to the rate of interest in bonds, regardless of whether the funds are acquired through debt instruments or through new issues of common stock. Indeed in a world of unsure returns, the distinction between debt and equity funds reduces largely to one of terminology. The concept of how firms implement their capital structure policies may send useful information to the investors of the company and this will finally have a bearing on the value of the firm', The whole discussion of the capital structure is related to their cost to the firm, in the process of determining its costs, these costs also do affect the capital structure decisions over time. Various theories have come up and that is mainly the genesis of most of these studies, the static trade off theory pecking order theory and the agency theory, the questions they try to answer range from what is the cost of capital and does it matter if one uses debt and equity or whether it matters if one uses debt alone or equity alone.

According to Miller and Modigliani (1958) the capital structure composition does not change the value of the firm, and thus the firm can either use debt or equity in any proportions, i.e. 'the average cost of capital to any firm is completely independent of its capital structure and is equal to the capitalization rate of a pure equity stream of its class' MM (1958), Choudhry and Choudhry Paul (2010), however in 1963 Miller made a correction on their earlier version of the theory ,on pg 433-434, 'the statement in italics unfortunately is wrong. For even though one firm may have an expected return after taxes twice that of another firm of the same risk equivalents class, it will not be the case that the actual returns after taxes of the first firm will always have different degrees of leverage.' The statement in italics was "*that the market values of firms in each class must be proportional in equilibrium to their expected returns net of taxes*" (that is, to the sum of interest paid and expected net stockholder income". The idea here is that studies are trying to find out whether the different combinations of debt and equity will add

value to the firm. The whole capital structure area is concerned with the right or optimal balance of debt and equity according to the Static Trade off theory or the hierarchical order of using various sources of funds where one starts with internal resources followed by debt and finally the use of equity as a last resort as per the pecking order theory. And how to add value to the firm without necessarily putting it at the risk of bankruptcy. For one to understand capital structure the propositions of capital structure given by Miller and Modigliani in the years of 1958 and 1961 are looked at below:

In the first proposition by Miller and Modigliani (1958), the core of the theorem is that a firm's total value is not affected by the capital structure of the firm, MM proposition is based on the assumption that in complete and perfect capital markets, these assumptions or elements of a perfect capital market are: no taxes, symmetric information, complete contracting possibilities, no transaction cost and complete markets. From the research done it has shown that the total value of the firm is independent of its capital structure or is not affected by the capital structure of the firm, Senbet W Lemma et al (2010), According to Miller and Modigliani (MM), they are of the opinion that when a capital market is perfect then there is no capital structure, and that capital structure is optimal when the balance of debt and equity has reached equilibrium. Taxes and other market imperfections in the modern world are necessary and are essential to building or proving a positive theory of capital structure. The stockholders who are the owners of the companies usually benefit only when companies are making profits and therefore changes in capital structure benefit only stockholders and then if and only if the value of the firm increases. An expropriation of wealth from the bondholders would in a rational expectations equilibrium be expected by the bondholders, and the stockholders would ultimately carry the costs of the expropriation.

Miller and Modigliani (1958) (b) wrote the seminal article in this field of research, using an arbitrage argument. Their argument was that if a firm can change its market value by a pure financial operation; the investors in the firm can take an action that replicates the resulting debt position of the firm. These transactions would merely change the weights of a portfolio and should, in a perfect capital market, give zero profit. If the market were efficient enough to eliminate the profits for the investors, any profit for the firm would be eliminated too. Miller and Modigliani in their original articles Miller and Modigliani (1958b) and Miller and Modigliani (1958a) assume several strict constraints. First, capital markets are assumed to be without transaction costs and there are no bankruptcy costs. All firms are in the same risk class. Corporate taxes are the only government burden. No growth is allowed since all cash flows are perpetuities. Firms issue only two types of claims, risk free debt and risky equity. All bonds (including any debts issued by households for the purpose of carrying stocks) are assumed to yield a constant income per unit of time, and the income is regarded as certain by all traders regardless of the issuer. Miller and Modigliani (1958b) "Information is symmetric across insider and outsider investors. Managers are loyal stewards of owners and always maximize stockholders' wealth".

### Profitability

The pecking order theory, based on works by Myers and Majluf (1984) argued that firms follow a pecking-order in the

choice of financing their activities. Roughly, this theory states that firms prefer internal funds rather than external funds. If external finance is required, the first choice is to issue debt, then possibly with hybrid securities such as convertible bonds, then eventually equity as a last resort (Brealey and Myers, 1991). This behaviour may be due all things being equal, the more profitable the firms are, the more internal financing they will have, and therefore we should expect a negative relationship between leverage and profitability. This relationship is one of the most systematic findings in the empirical literature (Harris and Raviv, 1991; Rajan and Zingales, 1995; Booth et al., 2001). There are conflicting theoretical predictions on the effects of profitability on leverage (Rajan and Zingales, 1995); while Myers and Majluf (1984) predicted a negative relationship according to the pecking order theory, Jensen (1986) predicted a positive relationship. Following the pecking order theory, profitable firms, which have access to retained profits, can use these for firm financing rather than accessing outside sources.

In the pecking order model, higher earnings should result in less book leverage. Firms prefer raising capital, first from retained earnings, second from debt, and third from issuing new equity. This behaviour is due to the costs associated with new equity issues in the presence of information asymmetries. Debt typically grows when investment exceeds retained earnings and fall when investment is less than retained earnings. Accordingly, the pecking order model predicts a negative relationship between book leverage and profitability. The pecking order theory predicts that firms with a lot of profits and few investments have little debt. Since the market value increases with profitability, the negative relationship between book leverage and profitability also holds for market leverage. However, in a trade-off theory framework, an opposite conclusion is expected. When firms are profitable, they should prefer debt to benefit from the tax shield. In addition, if past profitability is a good proxy for future profitability, profitable firms can borrow more as the likelihood of paying back the loans is greater. From the trade-off theory point of view more profitable firms are exposed to lower risks of bankruptcy and have greater incentive to employ debt to exploit interest tax shields.

Chittenden *et al.* (1996) states that empirical evidence from previous studies examining on capital structure is consistent with pecking order arguments with leverage being found to be negatively related to profitability. Akhtar (2005) also found significant and negative coefficients of profitability variable which conform to the pecking order theory. Similarly, Naveed *et al.* (2010) analysis on Pakistan Life Insurance Sector indicates the negative relationship between leverage and profitability and predicts that, in Pakistan, profitable life insurance companies preferred to utilize small portion of debt. This result confirms the notion that Pakistani life insurance companies follow pecking order pattern i.e. preferred to employ internal financing than debt. Rajan and Zingales (1995) and Bevan and Danbolt (2001) measured this variable as the ratio of Earnings before Interest and Taxes to total assets. This study will also measure Profitability as earnings before interest and taxes (EBIT) divided by total assets

#### **Growth**

According to pecking order theory hypothesis, a firm will use first internally generated funds which may not be sufficient for a growing firm. And the next option for the growing firms is to use

debt financing which implies that a growing firm will have a high leverage (Drobetz and Fix 2003). Applying pecking order arguments, growing firms place a greater demand on the internally generated funds of the firm. Consequently, firms with relatively high growth will tend to issue less security subject to information asymmetries, i.e. short-term debt. This should lead to firms with relatively higher growth having more leverage.

The same relationship is supported by trade-off theory, too. According to this theory, growth causes firms to shift financing from new equity to debt, as they need more funds to reduce the agency problem. Following trade-off theory, for companies with growth opportunities, the use of debt is limited as in the case of bankruptcy, the value of growth opportunities will be close to zero, growth opportunities are a particular case of intangible assets (Myers, 1984; Williamson, 1988 and Harris and Raviv, 1990). Firms with less growth prospects should use debt because it has a disciplinary role (Jensen, 1986; Stulz, 1990). Firms with growth opportunities may invest sub-optimally, and therefore creditors will be more reluctant to lend for long horizons. This problem can be solved by short-term financing (Titman and Wessels, 1988) or by convertible bonds (Jensen and Meckling, 1976; Smith and Warner, 1979). According to trade-off theory, the retained earnings of high growth firms increase and they issue more debt to maintain the target debt ratio. Thus, positive relationship between debt ratio and growth is expected based on this argument.

According to agency costs, on the other hand, Myers (1977) argued that, due to agency problems, firms investing in assets that might generate high growth opportunities in the future faced difficulties in borrowing against such assets. For this reason, we may now instead expect a negative relationship between growth and leverage. Previous research findings have different conclusion. For example, Huang and Song (2002) argued that sales growth rate was the past growth experience, while Tobin's Q better proxied future growth opportunities, although sales growth rate as well as Tobin's Q (market-to-book ratio of total assets) were employed to measure growth opportunities in this study. Jung, Kim and Stulz (1996) showed, if management pursued growth objectives, management and shareholder interests tended to coincide for firms with strong investment opportunities. But for firms lacking investment opportunities, debt served to limit the agency costs of managerial discretion as suggested by Jensen (1986) and Stulz (1990).

### **III. METHODOLOGY**

#### **The research model**

For testing the influence of firm specific factors on capital structure of insurance firms the researcher adopted a modified model to test the moderating effect of management control, in which case the researcher introduced the moderation variable (the product of management control and each of the four firm specific factors separately) to be able to capture the moderating effect of management control on the relationship between the independent and dependent variable and also the effect of the independent variable on the dependent variable without the moderator be noted. The researcher adopted and modified the panel regression model from Kalkani et al, (1998) which was also used by Abor & Biekpe, (2005). (i): the researcher used

equation (I) to test the influence of profitability on capital structure of insurance firms in Kenya with and without the moderator.

$$DR_{it} = \beta_0 + \beta_1 PROFT_{it} + \beta_2 MC_{it} + \beta_3 INTERACTION_{it} + e_{it} \dots \dots \dots (i)$$

DR<sub>it</sub> – capital structure  
 β<sub>0</sub> - is the constant  
 PROFT - Profitability  
 MC – management control  
 INTERACTION – ( MC\*PROFT )

The significance of the beta for interaction means that management control is significantly moderating the relationship between profitability and capital structure of insurance firms in Kenya.

The researcher used equation (II) to test the influence of growth on capital structure of insurance firms in Kenya with and without the moderator. The significance of the beta for interaction means that management control is significantly moderating the relationship between growth and capital structure of insurance firms in Kenya.

$$DR_{it} = \beta_0 + \beta_1 GROW_{it} + \beta_2 MC_{it} + \beta_3 INTERACTION_{it} + e_{it} \dots \dots \dots (ii)$$

DR – capital structure.  
 β<sub>0</sub> - is the constant  
 GROW - Growth  
 MC – management control  
 INTERACTION – ( MC\*GROW )

The researcher used equation (III) to test the moderating influence of management control on the relationship between independent variables (profitability and growth) on capital structure of insurance firms in Kenya. The significance of the

beta for interaction means that management control is significantly moderating the relationship between the four firm specific factors and capital structure of insurance firms in Kenya. The researcher introduced a dummy variable in the equation to capture the influence of the moderator (management control) in the relationship

$$DR_{it} = \beta_0 + \beta_1 PROFT_{it} + \beta_2 PROFT*MC_{it} + \beta_3 GROW_{it} + \beta_4 GROW*MC_{it} + e_{it} \dots \dots \dots (iii)$$

Where:  
 MC= 1 with moderation and  
 MC=0 without moderation  
 The assumptions of the multiple regressions are:

- 1) Linearity
- 2) Independence of error terms
- 3) Normality of error distributions
- 4) Homoscedasticity

#### IV. RESEARCH FINDINGS AND DISCUSSION

##### Introduction

This chapter covers research findings and discussion of results of the study, it begins with Panel regression analysis, interpretation and finally discussions of the results are also presented. The main objective of the study was to test the influence of firm specific factors on capital structure decision among insurance companies in Kenya.

**Table 4.1: Generalized Least Square Equation Results on profitability**  
 Dependent Variable: CAPITAL STRUCTURE

With moderation Model 1	Coefficient	Std. Error	t – statistic	Prob.
Variable				
Constant	0.031957	0.009950	3.211862	0.0015
Profitability	0.069236	0.029454	2.350668	0.0193
Management control	0.023146	0.022686	1.020291	0.3083
Interaction	-0.168321	0.063828	-2.637103	0.0088
Without moderation Model 1	coefficient	std. Error	t- statistic	prob.
Variable				
Profitability	-0.000131	0.013274	-0.009874	0.9921
Constant	0.040900	0.004713	8.678333	0.0000
Statistics	model 1	model 2	change statistics	
R – Squared	0.357537	0.343385	0.0141152	
Adjusted R- squared	0.254743	0.242985	0.0117580	
S.E. of regression	0.088550	0.089246	-0.000696	
Sum squared residual	2.548349	2.604485	-0.056136	
Log likelihood	408.5370	404.4189	4.1181	
F – Statistic	3.478191	3.420173	0.058018	
Prob. (F – statistic)	0.000000	0.000000	0.000000	
Mean dependent variable	0.040890	0.040890	000	

S .D. dependent variable	0.102573	0.102573	000
Akaike info criter	-1.881148	-1.869941	-0.011738
Schwar criterion	-1.329430	-1.339043	-0.009613
Hannan Quinn criteria	-1.662180	-1.659236	-0.002944
Durbin – Watson statistic	1.775686	1.727038	0.048648

**H<sub>01</sub>: There is no significant relationship between profitability and capital structure of insurance firms in Kenya**

The results panel data regression model 1 (with moderation) on profitability and leverage indicate that there is a significant relationship between profitability and capital structure and therefore the null hypothesis on the relationship between profitability and capital structure is rejected and the alternative hypothesis of a significant relationship is upheld. Profitability has a positive as shown by the positive and a significant beta coefficient (0.069236) with a p-value of 0.0193 which is less than 0.05 and 2.350668 t-value. This suggests that high profitability firms are more likely to use leverage for financing their investments than firms with low profitability. However without moderation of the management control, Profitability has a negative insignificant regression coefficient (-0.000131) on leverage, with 0.9921 level of significance and -0.009874 t-values. This suggests that high profitability firms are less likely to use leverage for financing their investments than firms with low profitability.

The results of model 1 indicate that the management exerts a significant moderating influence on the relationship between profitability and leverage this is clearly indicated by the significant p-values of the moderator and interaction between the moderator and profitability (0.0088) and also the change statistics i.e the difference in value of the R<sup>2</sup> between the moderated relationship and the unmoderated relationship and has also transformed the negative insignificant relationship to a positive and significant relationship, this moderated relationship tends to favour the position taken by the proponents of trade-off theory who argue that highly profitable firms will tend use debt to shield away their profits from tax. However this is against the position taken by pecking order theory. The strong influence of the management control on the firm’s capital structure is also in line with the agency theory. This position is also shared by Miller and Modiglian in their second proposition. The managers of local insurance firms seem to be aware of the tax shield advantage which is inherent in the use of debt capital.

**Table 4.3: Generalized Least Square Equation Results on growth**  
Dependent Variable: CAPITAL STRUCTURE

<b>With moderation:</b>	Coefficient	Std. Error	t – statistic	Prob.
Variable				
Constant	0.037091	0.010025	3.699841	0.0003
Growth	1.41E - 09	7.32E - 09	0.192155	0.8477
Management control	0.010442	0.022851	0.456975	0.6480
Interaction	-4.16E - 09	1.60E-08	-0.260924	0.7943
<b>Without moderation:</b>	Coefficient	Std. Error	t- statistic	prob.
Variable				
Growth	1.44E - 09	3.39E -09	0.424319	0.6716
Constant	0.040900	0.004713	8.678333	0.0000
Statistics	model 1	model 2	change statistics	
R – Squared	0.343763		0.317469	0.026294
Adjusted R- squared	0.238115		0.233685	0.000443
S.E. of regression	0.089734	0.089994	-0.00026	
Sum squared residual	2.600844		2.705054	-0.10421
Log likelihood	401.5447		394.1590	7.3857
F – Statistic	3.253849		3.789146	-0.5353
Prob. (F – statistic)	0.000000		0.000000	0.00000
Mean dependent variable	0.041104	0.041104	000	
S .D. dependent variable	0.102804	0.102804	000	
Akaike info criter	-1.853961	-1.873186	0.019225	
Schwar criterion	-1.300056	-1.434242	0.134186	
Hannan Quinn criteria	-1.634080	-1.698941	0.064861	
Durbin – Watson statistic	1.738548	1.717716	0.020832	

**H<sub>02</sub>: There is no significant relationship between growth and capital structure of insurance firms in Kenya.**

Table 4.2 results show that Growth has a positive insignificant regression coefficient on leverage, according to the regression results of model 2 with moderation: this means that the null hypothesis is upheld by the results of this model. Growth

has a positive relationship with leverage as shown by the positive beta coefficient (1.41E-09) and an insignificant regression coefficient on leverage: with 0.8477, level of significance which is more than 0.05 and 0.192155 t-value. The positive beta coefficient though too small suggests that high growth firms are more likely to use leverage for financing their investments than low growth firms. High growth firms in the insurance sector of Kenya are more likely to use leverage for financing their investments than low growth firms.

Without moderation; firm growth has a positive insignificant regression coefficient also (1.44E-09) on leverage, with 0.6716 level of significance which higher than 0.05 and 0.424319 t-value. The results indicate that the management exerts an insignificant moderating influence on the relationship between firm growth and leverage this is indicated by the level of significance of the coefficient of interaction between management control and firm growth (0.7943) which is higher than 0.05 significance level, the positive relationship in both models tend to support the position taken by pecking order theory. According to the pecking order theory hypothesis, a firm will first use internally generated funds which may not be sufficient for a growth firm causing the firm to result to external sources in which case the cheaper source would be given preference and this case debt finance.

**H<sub>03</sub>: There is no significant moderating influence of management control on capital structure of insurance firms in Kenya.**

Table 4.3 results indicate that Management control has a positive and significant regression coefficient on leverage according to results this means that the management exerts significant positive influence on insurance firms capital structure decisions: the results of model 5 completely rejects the null hypothesis that management control does not have significant influence on capital structure. Management control has a positive and a significant regression coefficient of 0.175001 on leverage, with a p-value of 0.0006 which is far below 0.05 and a relatively big t-value of 3.461074. It is also imperative to note that the interaction between profitability and management control is very significant. The change statistics also reflect the same position; the R<sup>2</sup> value changes significantly with the moderation

These results indicate that the firm management considers profitability the main firm level determinants of their capital structure decisions, it is also important to note that this variable is insignificant without moderation. The positive beta coefficients for profitability and size happen to support the position taken by proponents of trade-off theory.



**Table 4.3: Generalized Least Square Equation Results on management control**

Dependent variable: CAPITAL STRUCTURE

Variable	constant	Profitability	Growth	Size	Risk	M.C	prof*MC	grow*MC	Size*MC	Risk*MC
<u>With moderation</u>										
Coeff. -	0.005903	0.090047	3.4E-09	0.00312	1.15E-05	0.167861	-0.204955	-8.70E-09	-0.011218	- 6.09E-05
Std. Err	0.023284	0.029893	7.33E-09	0.002058	15E-06	0.050826	0.066225	1.58E-080	.0043712	79E-05
T – stat. -	0.253542	3.012346	0.473886	1.51861	1.413773	3.302640	-3.094833	-0.550328	-2.566222	-2.180165
Prob.	0.8000	0.0028	0.6359	0.1298	0.1584	0.0011	0.0021	0.5825	0.0107	00300
<u>Without moderation</u>										
Coeff.	0.053794	0.00356	1.84E-10	-0.0011	-2.22E- 06					
Std. E	0.012681	0.01314	3.57E- 09	0.0012	5.72E- 06					
T. st	4.242167	0.27049	0.051596	-1.0592	-0.3888					
Prob	0.0000 0	.7870	0.9589	0.2903	0.6977					
Statistics										
Model	R <sup>2</sup>	A.R <sup>2</sup>	S.E of R	F – statistic	MDV	S.D. V	SumSq.V	D.W.Resd	prob	
<u>With Moderation</u>										
Model	50.359296	0.261189	0.089003	3.662264	0.041498	0.1035482	534915	1.861482	(0.000000)	
<u>Without Moderation</u>										
Model 5	0.320938	0.229004	0.090921	3.490944	0.041498	0.103548	2.686678	1.759693	(0.000000)	
Chg.Stat.	0.038358	0.032185	-0.001918	0.17132	0000	000000	-0.151763	0.10178	(0.000000)	

## V. CONCLUSION AND RECOMMEDATIONS

This study examined the influence of the firm specific factors, growth and profitability on capital structure of insurance industry in Kenya, and made the following conclusions. High profitability firms in the insurance sector of Kenya are more likely to use leverage for financing their investments. Profitability firms in the insurance sector have low risk and therefore may prefer to use more debt finance because the firms are usually very attractive to creditors because of low possibility of default. High profitability firms in the insurance sector of Kenya may also use debt finance in order to take benefit from the tax shield inherent in debt finance; the managers are mainly motivated by their desire to secure their jobs and by protecting the companies from violent take overs i.e. mergers and acquisitions. This is done by paying dividends to the shareholders to win their support to help protect the companies from predators

The research findings suggest that high growth firms in the insurance sector of Kenya are more likely to use leverage for financing their investments than low growth firms. However this position is inconsistent with the Kenyan insurance industry environment, i.e. most of the high growth firms are new and small and they have less asset tangibility to secure debt finance, and also most of them have not established reputation with the financial institutions. Even though high growth firms will face more information asymmetries this problem is being addressed through regulation that requires all insurance companies make annual disclosures of their operations and to publish their audited accounts with the regulator (IRA), Kenya insurance association and the Nairobi security exchange for those insurance firms that are quoted. It is now possible that banks can determine the condition of the company's financial through various disclosure of information which are announced by the company in the security exchange, the regulator and the Kenya association of insurers. The rate of interest charged may also be lower, considering that the credit risk of these insurance firms is relatively smaller.

The results of panel regression model 3 indicate very significant moderating effect of management control on capital structure decisions. The results appear consistent with the Kenya situation although the financial sector is heavily regulated here in Kenya just like elsewhere in the world; the managers still make important part of these decisions in Kenya. The Kenyan insurance managers consider three of the firm level factors critical in their capital structure decisions these factors are profitability, firm size and firm risk. Although several scholars have identified the four factors that have been studied as important factors, the results have clear indicated that only three of those four are important determinants of firms' capital structure decision, these factors are only important when moderated by the management control.

### Recommendations

In light of the major findings observed from the results, the following recommendations were made. Although several factors have been listed by other researchers as key to determining capital structure decision, this research has indicated that profitability, size and firm risk are the most influential in guiding

the choice of leverage in the insurance industry. Therefore, insurance firm managers should pay greater attention to these significant variables in determining their capital structure.

High Profitability firms in the insurance sector have low risk and therefore may prefer to use more debt finance because the firms are usually very attractive to creditors because of low possibility of default. From the results of chapter four most of highly profitable firms in Kenya are still using funds generated from internal sources and is evidenced by the low percentage of debt capital compared to Equity, this shows that local insurance firms are not fully taking advantage of tax shield that is that is accorded to firms that use debt finance. This research encourages the firms to consider borrowing from the various sources availed by the capital and money markets in the country.

This research finds a positive relationship between firm growth and therefore advices growing insurance firms to go for debt finance to cater for their needs. However growth firms are likely to face more information asymmetries in the capital and money market because of the general perception that they are risky, in light of this fact this research advices the regulator (IRA), the Kenya association of insurers and the security exchange authority to address this problem through setting up of rules that will ensure effective disclosures of the companies audited financial statements. This will make it possible for banks and other financiers to determine the condition of the company's financials through various disclosure of information which are announced by the company in the security exchange, the regulator and the Kenya association of insurers. The rate of interest charged may be lower, considering that the credit risk of these insurance firms will come done once information about their status is disclosed.

The results of panel regression model 5 indicate very significant moderating effect of management control on capital structure decisions. The results appear consistent with the Kenya situation, although the financial sector is heavily regulated here in Kenya just like elsewhere in the world; the managers still make important part of these decisions in Kenya. In the light this findings and the knowledge generated, this research encourages investors to be extra vigilant to ensure that the managers manage the resources of the company prudently. The regulator and the security exchange authority should ensure that the management of these insurance companies does not put the wealth of the investors at risk with their activities. The regulator should hold the management of these companies to account for any acts of omission or commission that may jeopardize the company.

### Suggestions for Further Research

Based on the findings and limitations of the research, the following recommendations can be made for further research:

1. This study examined only four firm specific factors of optimal capital structure of insurance industry in Kenya the four factors have a combined explanatory power of optimal capital structure of firms of about 39% which leaves a gap of 61% unaccounted for. Thus, future researcher may address these deficiencies by including the other firm specific variables like asset tangibility and liquidity and also external variables like inflation, GDP, interest rates, taxation, regulation, competition and ownership structure, in order to demonstrate the impact of

both internal and external variables on the choice of capital structure.

2. This research heavily relied on secondary data that was obtained from the companies' websites and the websites of the regulator (IRA), the insurance association and Nairobi security exchange. Future researchers should try to incorporate the views of the managers of the insurance firms and of those in charge of insurance regulatory authority, the association of insurers and the Nairobi security exchange

3. There exist other limitations to this paper as well that should be addressed by future researchers. In particular, the data is based on book values and not market figures, which may be a major drawback in some cases, for instance when estimating the effect of expected growth opportunities on leverage, since stock markets usually capitalize the present value of growth opportunities.

4. The research also did not collect data on the 10 insurance firms that did not have continuous data for the 10 years from 2003 to 2012. These firms that were left out constitute about 20% of the number of firms in the insurance industry which the researcher fills is a significant number whose inclusion could have altered the results of this research.

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