

# The effects of firm size and risk on Capital Structure decisions 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 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 size and firm risk were analyzed as the firm specific determinants of capital structure which was used as the dependent variable, the relationship between independent variable and the dependent variable was moderated by the management control. Statistical data was collected from audited year-end financial reports filled with Kenya insurance regulatory authority (IRA) was analyzed; this research used secondary data only. Panel regression analysis was done using the statistical package (EViews version 8) to establish the relationship between independent and dependent variables. The panel regression results indicated that size had a significant influence on capital structure with moderating effect of the management control while risk was not significant. However without moderation of the management control the two independent variables were not significant. The moderator and the interaction between the moderator and the two independent variables were found to be significant. This means that the management of insurance firms exerts significant moderating influence on the relationship between the two firm factors and capital structure. These results were found to agree with the proponents of Agency theory in as far as the influence of the management control is concerned.

**Index Terms-** firm size, firm risk, Management control and capital structure

## I. INTRODUCTION

### **T**Background information

The capital structure of a firm is the specific mix of debt to equity, or capital structure that maximizes the value of the firm and decreases its risk profile (Morri and Beretta 2008). 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.

It seems that one is competing against the other one and they seem both reasonable to some extent. Scholars always try to run a race between them in order to find the circumstances in which one is superior to another (Myer and Majuf 1984, Fama and French 2002). They find that pecking order works best for large, mature companies that have access to public bond markets. This is not consistent with smaller, younger, growth firms, which are more likely to rely on equity instead of debt, here the pecking order theory stumbles (Shyam-Sunder and Myers 1999, Lemmon and Zender 2002, Frank and Goyal 2003). The trade-off theory still retains some explanatory power once pecking order motives are accounted for.

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.

Capital structure decisions are determined by a complex set of factors (Chen, 2004; Mazur, 2007; Bhabra, Liu & Tirtiroglu, 2008; Frank & Goyal, 2009; Getzmann, Lang & Spremann, 2010). Bhabra, Lui and Tirtiroglu (2008) indicated that significant factors influencing capital structure decision are proportion of tangible assets, size, profitability, and growth opportunities. Furthermore, Frank and Goyal (2009) suggested that the reliable factors for explaining market leverage are median industry leverage, market-to-book assets ratio, tangibility of assets, profits, log of assets and expected inflation. The significant determinants of capital structure have been disagreed over decades of empirical studies. Specifically, what are the influential factors in determining how firms select the types of security to be issued are considered to be questionable.

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.

## **Insurance industry in Kenya**

The insurance industry in Kenya has for almost three decades seen a number of changes being Introduced and adopted. It is however, worrying to note that eight insurance firms have either Collapsed or have been placed under statutory management; representing an average of one insurance company after every four years. These include: - Kenya National Assurance Company, United Insurance Company, Lake Star Assurance Company, Standard Assurance, Access Insurance Company, Stallion Insurance, Invesco Assurance and Blue Shield Insurance Company. In response to this trend, the government of Kenya responded by establishing the Insurance Regulatory Authority (IRA) which is the prudential regulator of the insurance industry in Kenya. IRA became autonomous on 1st May, 2007 through an Act of Parliament. IRA is also responsible for supervising and developing the insurance industry in collaboration with other stakeholders such as agents and brokers.

Kenya's insurance industry leads within the East Africa Community and is a key player in the COMESA region (report by IRA 2012). The industry employs over 10,000 people. According to Ndung'u (2012), the Kenyan insurance market wrote Kenya Shillings 100 billion of Gross Direct Premiums in the year 2011. It has grown at an average rate of 16% p.a. over the last 5 years. Kenya currently has 45 licensed insurance companies. It is believed that the industry can grow tremendously if the government brings in assets into the industry instead of only playing the role of regulation.

### **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 (capital structure). Little is also known about the influence a firm's debt policy may have as a moderating variable on the relationship between

profitability, firm's size, firm's growth and firm's risk 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 debt policy as a moderating factor may have on the capital structure of the insurance industry in Kenya.

### General Objective

To measure the influence of firm specific determinants on capital structure of the insurance industry in Kenya.

### Specific objectives

1. To assess the influence of firm size on capital structure of the insurance industry in Kenya.
2. To examine the influence of firm risk on capital structure of the insurance industry in Kenya.
3. To determine the influence of management decision on capital structure of the insurance industry in Kenya

### Hypothesis

H<sub>0</sub>: There is no significant relationship between size and capital structure of insurance firms in Kenya.

H<sub>0</sub>: There is no significant relationship between risk and capital structure of insurance firms in Kenya. .

H<sub>0</sub>: There is no significant moderating effect of management control on capital structure of insurance firms in Kenya.

### Scope

The scope of this study was limited to the relationship between capital structure and firm specific determinants ( profitability, growth, size, asset tangibility and risk ) 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 limited to 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.

### 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. 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. 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. The research findings will provide useful information to NSE that will be beneficial to the investors when making their critical investment decisions. 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.

### 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.
2. The study use 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

A theory is a "set of interrelated concepts, definitions, and propositions that present a systematic view of events or situations by specifying relations among variables, in order to explain and predict the events or situations" (Van Ryn& Heaney, 1992). Theoretical literature is concerned primarily with theories or hypotheses rather than practical application.

### 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 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 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 indicate 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.

Optimum is reached when managers find the mix of debt and equity that maximize firm value. There are a number of researches based on the existence of an capital structure. Graham and Harvey (2001) surveyed 392 CFOs about the cost of capital, capital budgeting and capital structure. Target debt ratio varies from country to country, industry to industry, and firm to firm. As far as firm specific factors are concerned, the nature of the asset base, the stability of the cash flow, and the quality of management, will all be relevant. Static trade-off theory suggests that companies with safe, tangible assets and plenty of taxable income to shield ought to have high target ratios. Unprofitable companies with risky, intangible assets ought to rely primarily on equity financing (Brealy et al, 2006). Static Trade-off theory suggests that a firm that is profitable is likely to have more debt as it would want to shield its income from taxes. This means that a firm that in its profitable period will use more debt-financing. Static Trade-off also predicts that a firm with growth opportunities will use less debt-financing because it is more likely to lose value in financial distress. (Niu, 2008)

### **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 arise 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.

### **Firm size**

According to tradeoff theory, first, large firms' don't consider the direct bankruptcy costs as an active variable in deciding the level of leverage as these costs are fixed by constitution and constitute a smaller proportion of the total firm's value. And also, larger firms being more diversified have lesser chances of bankruptcy (Titman and Wessels 1988). Following this, one may expect a positive relationship between size and leverage of a firm. The trade-off theory predicts an inverse relationship between size and the probability of bankruptcy. Hence, there is a positive relationship between size and leverage. Second, contrary to first view, Rajan and Zingales (1995) argued that there was less asymmetrical information about the larger firms. This reduced the chances of undervaluation of the new equity issue and thus encouraged the large firms to use equity financing. This means that there is negative relationship between size and leverage of a firm. Following Rajan and



Zingales (1995), we expect a negative relationship between size and leverage of the firm. Therefore, the pecking order theory of the capital structure predicts a negative relationship between leverage and size, as larger firms exhibiting increasing preference for equity relative to debt. Meanwhile, previous research also has different results. Titman and Wessels (1988) and Drobetz and Fix (2003) measure of size was the natural logarithm of net sales. However, they stated that net sales was a better proxy for size, because many firms attempted to keep their reported size of asset as small as possible, e.g., by using lease contracts.

Size can be regarded as a proxy for information asymmetry between firm insiders and the capital markets. Large firms are more closely observed by analysts and should therefore be more capable of issuing informationally more sensitive equity, and have lower debt. Akhtar and Oliver (2006) found that more profitable firms had significantly less leverage regardless of whether they were MNCs or DCs. This supports the pecking-order theory of capital structure for both MNCs and DCs. Rajan and Zingales (1995) and Wald (1999) found that larger firms in Germany tended to have less debt. Meanwhile, many studies suggest there is a positive relation between leverage and size. Drobetz and Fix (2003) said that size was positively related to leverage, indicating that size was a proxy for a low probability of default. Empirical studies, such as Marsh (1982), Rajan and Zingales (1995), Wald (1999), and Booth et al. (2001), generally found that leverage was positively correlated with company size. Huang and Song found that size was positively related with total liability.

Marsh (1982) found that large firms more often chose long-term debt while small firms chose short-term debt. Large firms may be able to take advantage of economies of scale in issuing long-term debt, and may even have bargaining power over creditors. So the cost of issuing debt and equity is negatively related to firm size. However, size may also be a proxy for the information that outside investors have. Fama and Jensen (1983) argued that larger firms tended to provide more information to lenders than smaller ones. Rajan and Zingales (1995) argued that larger firms tended to disclose more information to outside investors than smaller ones. Overall, larger firms with less asymmetric information problems should tend to have more equity than debt and thus have lower leverage. However, larger firms are often more diversified and have more stable cash flow; the probability of bankruptcy for large firms is smaller compared with smaller ones, *ceteris paribus*. Both arguments suggest size should be positively related with leverage. According to Whited (1992) small firms could not access long-term debt markets since their growth opportunities exceeded their collateralizable assets. Titman and Wessels (1988) argued that larger firms had easier access to capital markets.

The effect of size on debt ratios is ambiguous from the theoretical point of view; some authors encountered a positive relation between size and leverage; some others reported negative relation and others also found statistically insignificant relationship between them. Mary *et al.* (2011) recent work on the actively listed Egyptian corporations, the findings of the estimated model and the various other tests confirm the existence of a significant positive relation between the firm size and the debt-equity ratio. This finding conforms to those of the other

empirical studies conducted in countries all over the world. These results also confirm the notion that large firms are employed more debt because these are less risky and diversified in nature (static trade-off theory). In addition, larger firms are preferred to issue more debt because it reduces direct bankruptcy costs due to market confidence. Moreover, smaller firms prefer to acquire lower debt because these firms might face the risk of liquidation at the time of financial distress. Contrary to the above, Faris (2010) found a negative relationship between leverage and firm size. To measure size, sales is considered a sound measure (muema, 2013). So the natural logarithm of sales is taken to measure the size as used in some previous studies. (Myers & Majluf, 1984), Turere (2012) and muema (2013) used the same measure. Size of the firm will be measured by taking the natural logarithm of the sales as this measure 'smoothens' the variation in the figure over the periods of time.

#### **Firm risk.**

According to pecking order theory and tradeoff theory, earning volatility is considered to be either the inherent business risk in the operations of a firm or a result of inefficient management practices. In either case earning volatility is proxy for the probability of financial distress and the firm will have to pay risk premium to outside fund providers. To reduce the cost of capital, a firm will first use internally generated funds and then outsider funds. This suggests that earning volatility is negatively related with leverage. This is the combined prediction of trade-off theory and pecking order theory. According to pecking order theory and tradeoff theory, income variability is a measure of business risk. Since higher variability in earnings indicates that the probability of bankruptcy increases, we can expect that firms with higher income variability have lower leverage. Therefore, the trade-off model allows the same prediction, but the reasoning is slightly different. More volatile cash flows increase the probability of default, implying a negative relationship between leverage and volatility of cash flows. As expected, the relationship between leverage and volatility is negative. This supports both the trade-off theory (more volatile cash flows increase the probability of default) and the pecking order theory (issuing equity is more costly for firms with volatile cash flows). Cools (1993) said that agency theory suggested positive relationship between earning volatility and leverage. He said that the problem of underinvestment decreased when the volatility of firm returns increased. Booth et al. , (2001), Bradley et al., (1984), Chaplinsky and Niehaus, (1993), Wald, (1999), and Titman and Wessels (1988), all these studies found that business risk was negatively correlated with leverage.

Huang and Song (2002) found that the positive relation between total liabilities ratio and volatility was consistent with Hsia's (1981) view that firms with higher leverage level tended to make riskier investment. Despite the broad consensus that firm risk is an important inverse determinant of corporate debt policy, empirical investigation has led to contradictory results. For instance, unusually, Rafiq et al. (2008) found positive relationship between leverage and risk. Likewise, an empirical study by Mary *et al.* (2011) on the determinants of capital structure in listed Egyptian Corporations also indicates a positive relation between business risk and leverage, which contradicts the theoretical background and the findings observed in most

developed and developing countries. However; most theories and empirical findings (Titman & Wessels 1988) indicate an inverse relationship between risk and debt ratio. Kinyua (2005) studied the determinants of capital structure of small and medium-sized enterprises in Kenya. He established that, management attitude towards risk and lenders' attitude towards the company are key determinants of capital structure for enterprises in Kenya. Kinyua (2005) used operating income volatility as the proxy to measure risk; the same proxy will be used for the purpose of this study.

**Management control.**

Recent capital structure theories, Grossman and Hart (1982) Jensen (1986) Stulz(1990) and Hart and Moore(1982) have emphasized the role played by debt in reducing agency conflicts between managers and shareholders. Debt increases efficiency because it prevents managers from financing unprofitable projects. At the same time debt may also block some profitable investment opportunities. The capital structure then represents the ex-ante efficient tradeoff between these costs and benefits

These theories, though, leave unresolved the issue of who will choose such an capital structure. They emphasize the role of debt in reducing agency problems between Managers and shareholders, but they ignore that the choice of debt itself is subject to an agency problem. Short of claiming that the capital structure is designed once and for all by the initial founders, these theories have to rely on self-interested managers to implement the optimal financing decisions. This fact raises two questions. First, how can we expect a manager to voluntarily increase the firm's leverage to decrease her own discretion? Second, even admitting that managers might be forced to use debt, why should we expect their choices to coincide with the ex-ante optimal ones?

The first question has been addressed by Harris and Raviv (1988), Stulz (1988), and especially Zwiebel (1992). All these papers show how a takeover threat forces a manager to increase leverage. In particular, Zwiebel (1992) shows this might happen even if the .takeover pressure is permanent. However, none of these studies analyse the possible divergence between a manager's choice under a takeover threat and the ex-ante capital structure. Hart and Moore (1995) argued that Management chooses financial structure to maximize its own welfare. The purpose of this paper is to how the management can influence the capital structure of a firm

The researcher's characterization of the managers' point of view is similar to Zwiebel (1992) in that a manager maximizes her job tenure, which is threatened by two possible events; bankruptcy and takeovers. The occurrence of both these events is affected by the capital structure in place. In the researcher's view, though, the manager realizes that the use of debt may crowd out the effectiveness of takeovers and uses this crowding out effect in a way that maximizes his/her own entrenchment. This creates a distortion in the manager's capital structure choice.

We show that, in general, the shareholders and the manager's capital structure choices Differ. Depending on a company's relative performance and on the pressure from the corporate control market, the manager may under-lever or over-lever her company with respect to the ex-ante optimal shareholders' choice. More importantly, the two choices differ not only in their levels, but also in their sensitivities to the cost of

financial distress and taxes. For instance, while the efficiency approach has standard predictions on the effects of taxes, the entrenchment approach predicts an asymmetric and variable sensitivity of capital structure choice to tax incentives. In summary, in a world where managers control capital structure decisions, Hart and Moore's (1995) argument does not necessarily hold.

Our questioning of this conjecture highlights the importance of examining the capital structure decisions from a manager's perspective. This perspective was strongly advocated by Donaldson (1969) more than twenty five years ago, but its full implications have never been worked out. It has generally been identified with the simple idea that managers under lever their companies for fear of the personal costs of bankruptcy. This risk aversion explanation, however, is far from satisfactory. It cannot explain why risk averse managers are reluctant to issue equity and why the same risk averse managers who generally under-lever their companies chose to undertake major leverage recapitalizations in the 1980s.

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). The researcher used equation (I) to test the influence of size 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 size and capital structure of insurance firms in Kenya.

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

DR – capital structure  
 β<sub>0</sub> - is the constant  
 SIZE – firm size  
 MC – management control  
 INTERACTION – ( MC\* Size)

The researcher used equation (II) to test the influence of firm risk 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 firm size and capital structure of insurance firms in Kenya.

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

DR – capital structure  
 β<sub>0</sub> – is the constant  
 RISK – firm risk

MC – management control  
 INTERACTION – ( MC\* RISK)

The researcher used equation (III) to test the moderating influence of management control on the relationship between independent variables (profitability, growth, size and firm risk) and 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

$$DR_{it} = \beta_0 + \beta_1 \text{PROFIT}_{it} + \beta_2 \text{PROFIT} * \text{MC}_{it} + \beta_3 \text{GROW}_{it} + \beta_4 \text{GROW} * \text{MC}_{it} + \beta_5 \text{SIZE}_{it} + \beta_6 \text{SIZE} * \text{MC}_{it} + \beta_7 \text{RISK}_{it} + \beta_8 \text{RISK} * \text{MC}_{it} + \text{MC} + e_{it} \dots \dots \dots (v)$$

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

This chapter covers research findings and discussion of results of the study. It begins with regressions analysis then interpretations and 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 4.22: Generalized Least Square Equation Results on firm size**

Dependent Variable: CAPITAL STRUCTURE

With moderation Model 1	Coefficient	Std. Error	t – statistic	Prob.
Variable				
Constant	-0.092735	0.062310	-1.488271	0.1376
Firm size	0.013322	0.006265	2.126460	0.0342
Management control	0.086252	0.044678	1.930536	0.0544
Interaction	-0.008213	0.004167	-1.970963	0.0496

  

Without moderation Model 2	coefficient	std. Error	t- statistic	prob.
Variable				
Firm size	-0.001060	0.000989	-1.071969	0.2845
Constant	0.051353	0.010795	4.757061	0.0000

  

Statistics	model 1	model 2	change statistics
R – Squared	0.356804	0.319191	0.037613
Adjusted R- squared	0.253893	0.236117	0.017776
S.E. of regression	0.088600	0.089650	-0.00105
Sum squared residual	2.551257	2.700449	-0.149192
Log likelihood	408.3214	397.5802	10.7412
F – Statistic	3.467101	3.842214	-0.375113
Prob. (F – statistic)	0.000000	0.000000	0
Mean dependent variable	0.040890	0.040890	0
S .D. dependent variable	0.102573	0.102573	0
Akaike info criter	-1.880008	-1.881377	0.001369
Schwarz criterion	-1.328290	-1.444166	0.115876
Hannan Quinn criterion	-1.661039	-1.707855	0.046816
Durbin – Watson statistic	1.733131	1.718306	0.014825

**H<sub>02</sub>; There is no significant relationship between firm size and capital structure of insurance firms in Kenya**

The results panel data regression model 2 (with moderation) for size on leverage is significant. Size has a positive relationship with leverage as shown by the positive beta coefficient (0.013322) and a significant regression coefficient on leverage: with 0.0342 level of significance which is less than 0.05 and 2.126460 t-value. This suggests that large size firms are more likely to use leverage for financing their investments than small firms. Large size firms in the insurance sector of Kenya are more likely to use leverage for financing their investments than

small firms. On model 2 (without moderation) firm size has a negative insignificant regression coefficient (-0.001060) on leverage, with 0.2845 level of significance and -1.071969 t-values. This suggests that large size firms are less likely to use leverage for financing their investments than firms with small firms. The results indicate that the management exerts a significant moderating influence on the relationship between firm size and leverage this is indicated by the level of significance of the coefficient of interaction between management control and firm size (0.0496) which is less than 0.05. It also transforms 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.

Rajan and Zingales (1995) argued that there was less asymmetrical information about the larger firms. This reduced the chances of undervaluation of the new equity issue and thus encouraged the large firms to use equity financing. Static trade-off theory is generally interpreted as predicting that large firms will have more debt since larger firms are more diversified and have lower default risk. Larger firms are also typically more mature firms. These firms have a reputation in debt markets and consequently face lower agency costs of debt. Hence, the trade-off theory predicts that leverage and firm size should be positively related. The pecking order theory is usually interpreted as predicting an inverse relation between leverage and firm size. The argument is that large firms have been around longer and are better known. Thus, large firms face lower adverse selection and can more easily issue equity compared to small firms where adverse selection problems are severe. Large firms also have

more assets and thus the adverse selection may be more important if it impinges on a larger base.

There are several theoretical reasons why firm size is related to the capital structure. Smaller firms may find it relatively more costly to resolve informational asymmetries with lenders and financiers, which discourages the use of outside financing (Chung, 1993; Grinblatt and Titman, 1998) and should increase the preference of smaller firms for equity relative to debt (Rajan and Zingales, 1995). However, this problem may be mitigated with the use of short term debt (Titman and Wessels, 1988). Relative bankruptcy costs and probability of bankruptcy (larger firms are more diversified and fail less often) are an inverse function of firm size (Warner, 1977; Ang et al. , 1982; Pettit and Singer, 1985; Titman and Wessels, 1988). A further reason for smaller firms to have lower leverage ratios is that smaller firms are more likely to be liquidated when they are in financial distress (Ozkan, 1996).

**Table 4.27: Generalized Least Square Equation Results on firm risk**

Dependent Variable: CAPITAL STRUCTURE

With moderation	Model 1 Coefficient	Std. Error	t – statistic	Prob.
Variable				
Constant	0.031926	0.011060	2.886626	0.0042
Firm risk	1.08E - 05	8.25E – 06	1.310795	0.1909
Management control	0.039040	0.026627	1.466173	0.1436
Interaction	-5.69E - 05	2.80E - 05	-2.034939	0.0427
Without moderation	coefficient	std. Error	t- statistic	prob.
Variable				
Firm risk	-1.74E - 06	5.68E- 06	-0.30049	0.07590
Constant	0.042279	0.005713	7.401088	0.0000
Statistics	model 1	model 2	change statistics	
R – Squared	0.352664	0.317321	0.035343	
Adjusted R- squared	0.247124	0.232504	0.01462	
S.E. of regression	0.089641	0.090508	-0.000867	
Sum squared residual	2.563309	2.703259	-0.13995	
Log likelihood	397.9875	388.1000	9.8875	
F – Statistic	3.342096	3.741220	-0.399124	
Prob. (F – statistic)	0.000000	0.000000	0.00000	
Mean dependent variable	0.041279	0.041279	000	
S .D. dependent variable	0.103312	0.103312	0000	
Akaike info criterion	-1.854771	-1.860752	0.005981	
Schwar criterion	-1.296434	-1.418297	0.121863	
Hannan Quinn criterion	-1.633041	-1.685041	0.052	
Durbin – Watson statistic	1.778047	1.729365	0.048682	

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

The results of model 1 (with moderation) on risk and leverage are significant. Risk has a positive as shown by the positive beta coefficient (0.0000108) and an insignificant regression coefficient on leverage: with 0.1909 level of significance which is more than 0.05 and 1.310795 t-value. This suggests that highly risky firms are more likely to use leverage for financing their investments than low risk firms. Highly risky

firms in the insurance sector of Kenya are more likely to use leverage for financing their investments than low risk firms. On model 2 (without moderation) firm risk has a negative insignificant regression coefficient (-0.0000074) on leverage, with 0.07590 level of significance which higher than 0.05 and 0.30049 t-value. This suggests that highly risky firms are less likely to use leverage for financing their investments than low risk firms. The results indicate that the management exerts a significant moderating influence on the relationship between firm risk and leverage this is indicated by the level of significance of



the coefficient of interaction between management control and firm risk (0.0496) which is less than 0.05. It also transforms the negative insignificant relationship between firm risk and capital structure to a positive relationship; this moderated relationship tends to go contrary to the position taken by the proponents of trade-off theory. This positive result goes contrary to the trade-off theory that the more volatile cash flows the higher the probability of default. Our positive result supported the agency theory that the problem of underinvestment decreased when the volatility of the firms returns increased, hence, firms use more leverage.

Bradley et al., (1984); Kester, (1986); Titman and Wessels (1988) found that since higher variability in earnings indicates

that the probability of bankruptcy increases, they expect that firms with higher income variability have lower leverage. Firms that have high operating risk can lower the volatility of the net profit by reducing the level of debt. A negative relation between operating risk and leverage is also expected from a pecking order theory perspective: firms with high volatility of results try to accumulate cash during good years, to avoid under-investment issues in the future. Drobetz and Fix (2003) found as expected, the leverage was negatively related to the volatility. They also showed that their finding supported both the trade-off theory (more volatile cash flows increase the probability of default) and the pecking order theory (issuing equity is more costly for firms with volatile cash flows).

**Table 4.32: Generalized Least Square Equation Results on management control**

Dependent variable: CAPITAL STRUCTURE

Variable	constant	Size	Risk	M.C	Size*MC	Risk*MC		
<b>With moderation</b>								
Coeff. -	0.005903	0.00312	1.15E-05	0.167861	-0.011218	-6.09E-05		
Std. Err	0.023284	0.002058	1.5E-06	0.050826	.0043712	79E-05		
T – stat. -	0.253542	1.51861	1.413773	3.302640	-2.566222	-2.180165		
Prob.	0.8000	0.1298	0.1584	0.0011	0.0107	00300		
<b>Without moderation</b>								
Coeff.	0.053794	-0.0011	-2.22E-06					
Std. E.	0.012681	0.0012	5.72E-06					
T. st	4.242167	-1.0592	-0.3888					
Prob	0.00000	0.2903	0.6977					
<b>Statistics</b>								
Model	D.W.Resd	R <sup>2</sup> prob	A.R <sup>2</sup>	S.E of R	F – statistic	MDV	S.D. V	SumSq.V
<b>With Moderation</b>								
Model		50.359296	0.261189	0.089003	3.662264	0.041498	0.1035482	534915
1.861482	(0.000000)							
<b>Without Moderation</b>								
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)							

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

The results of the full model indicate that there is a significant moderating effect of management control on capital structure of insurance firms in Kenya. Management control has a positive and a significant regression coefficient of 0.175001 on leverage, with 0.0006 level of significance 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 firm size and the management control, interaction between firm risk and management control and the interaction between profitability and management control are all very significant. These results indicate that the firm management considers the three variables

profitability, size and risk as the main firm level determinants of their capital structure decisions, it is also important to note that these variables are all insignificant without moderation. The positive beta coefficients for profitability and size happen to support the position taken by proponents of trade-off theory. The positive beta coefficient for firm risk is also in agreement with the trade-off theory which takes the position that risky firms have a higher chance of bankruptcy and therefore are not likely to be attractive to the creditors.

Recent capital structure theories, Grossman and Hart (1982) Jensen (1986) Stulz(1990) and Hart and Moore(1982) have emphasized the role played by debt in reducing agency conflicts between managers and shareholders. Debt increases efficiency because it prevents managers from financing unprofitable

projects. At the same time debt may also block some profitable investment opportunities. The capital structure then represents the ex-ante efficient tradeoff between these costs and benefits

These theories, though, leave unresolved the issue of who will choose the capital structure. They emphasize the role of debt in reducing agency problems between Managers and shareholders, but they ignore that the choice of debt itself is subject to an agency problem. Short of claiming that the capital structure is designed once and for all by the initial founders, these theories have to rely on self-interested managers to implement the optimal financing decisions. This fact raises two questions. First, how can we expect a manager to voluntarily increase the firm's leverage to decrease her own discretion? Second, even admitting that managers might be forced to use debt, why should we expect their choices to coincide with the ex-ante optimal ones?

The first question has been addressed by Harris and Raviv (1988), Stulz (1988), and especially Zwiebel (1992). All these papers show how a takeover threat forces a manager to increase leverage. In particular, Zwiebel (1992) shows this might happen even if the takeover pressure is permanent. However, none of these studies analyse the possible divergence between a manager's choice under a takeover threat and the ex-ante capital structure. Hart and Moore (1995) argued that Management chooses financial structure to maximize its own welfare. The purpose of this paper is to how the management can influence the capital structure of a firm

## V. CONCLUSION AND RECOMMENDATIONS

### Conclusion

Result showed that large insurance firms are more likely to use leverage to finance their activities in Kenya compared to small firms. Small firms often suffer the problems associated with asymmetric information, such as adverse selection, and they have to face higher bankruptcy costs, greater agency costs and bigger costs to resolve the higher informational asymmetries. However in Kenya's insurance industry, this problem of information is being addressed by the regulator and such organizations like the capital market authority by enforcing certain disclosure requirements on the firms to ensure certain critical information is available to the investors. As Rajan and Zingales (1995) argued that there was less asymmetrical information about the larger firms. The fact that size is leverage was consistent with trade-off theory. It implies that larger firms would take the tax shield benefit.

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. 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.

### 5.4. Recommendations

In light of the major findings observed from the results, the following recommendations were made. Result showed that large insurance firms are more likely to use leverage to finance their activities in Kenya compared to small firms. Small firms often suffer the problems associated with asymmetric information, such as adverse selection, and they have to face higher bankruptcy costs, greater agency costs and bigger costs to resolve the higher informational asymmetries. To solve this problem of information asymmetry this research encourages the Kenya association of insurers and the regulator to enforce disclosure requirements among the firms in order encourage investors to invest their capital in the small firms. This research also notes that large insurance firms may be enjoying undue advantage in the money and capital markets because of their perceived low risk and therefore encourages the capital market authority to even out the environment of competition in order to encourage the small firms.

The results of the research indicate that risky firms will result to more borrowing. This may cause serious problems to the firm and the investors because of possibility of bankruptcy. On this the research recommends that proper due diligence should be conducted particularly by the investors to ensure that they do not endanger their wealth. The capital market authority should also ensure financial soundness of the firm is determined before the firm can access finance.

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 the 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. 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.

3. 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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