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**“AGE OF THE FIRM AS A FACTOR INFLUENCING CAPITAL  
STRUCTURE OF INSURANCE COMPANIES IN KENYA”**



**Cheruiyot Ng'etich Joseph Sawe**  
**MBA Student**

*Jomo Kenyatta University of Agriculture and  
Technology,  
Nairobi, Kenya*



**Dr. Ondiek Alala**  
**Lecturer**

*Kabianga University,  
Kenya*



**Dr. Douglas Musiega**  
**Director**

*Jomo Kenyatta University of Agriculture  
and Technology,  
Nairobi, Kenya*



**Gerishom Wafula Manase**  
**Phd- Student**

*Jomo Kenyatta University of Agriculture  
and Technology,  
Nairobi, Kenya*

## Abstract

Capital structure refers to the combination of debt and equity capital a firm uses to finance its long-term operations. The capital structure decision can affect the value of the firm by changing the firm's expected earnings, its cost of capital or both. One of the most important objectives of determining an optimal capital structure of the firm is to ensure the lowest cost of capital and to maximize shareholders wealth. This paper is on age as a factor affecting capital structure in the insurance sector companies. This study sought to establish the influence of age as a factor of capital structure of the insurance companies in Kenya. The study focused on the entire population of the registered insurance companies listed in the Nairobi Securities Exchange in Kenya. Expectedly, the result of the study is sufficient to give an insight into how age of insurance company influences its capital structure among the listed insurance companies in the Nairobi Securities Exchange in Kenya. This study employed univariate analysis to measure the impact of this factor on the company's capital structure. The findings established a co efficient of correlation of 0.809 and a regression of 0.65 indicating a strong relation between age and the capital structure of insurance companies.

**KEY WORDS:** Capital Structure, Firm, Insurance Industry, Earnings before Interest and Taxes, Nairobi Stock Exchange (NSE), Modigliani and Miller (MM)

## Introduction

One of the most important objectives of determining an optimal capital structure of the firm is to ensure the lowest cost of capital and to maximize shareholders' wealth (Ellili & Farouk, 2011). An optimal capital structure is reached at a point where the cost of the capital is at its minimum. The determination of an optimal capital structure as well as the factors that determine it have been and still is an important area in financial management. However, as Myers puts it, the puzzle of how firms make capital structure decisions is still unresolved (Myers, 1984).

Company financing decisions involve a wide range of policy issues, which have implications at both the macro and micro levels. At the macro level, such decisions affect capital market development, interest rate, security price determination, and regulation. At the micro level, such decisions affect capital structure, corporate governance and company development (Green et al., 2002). Earlier studies by Singh & Hamid (1992) and Singh (1995) using data on companies in selected developing countries, found that firms in developing countries made

significantly more use of external finance to finance their growth than industrialized countries. They also found that firms in developing countries rely more on equity finance than debt finance. In India, Cobham & Subramaniam, (1998) used a sample of larger firms and found that Indian firms use lower external and equity financing. In a study of large companies in ten developing countries, Booth *et al.*, (2001) also found that debt ratios varied substantially across developing countries, but overall were not out of line with comparable data for industrial countries.

### **Expected factors affecting Capital Structure**

The hypothesized factors affecting the capital structure are: age of the company, size of the company, the company's influenced by the life stage of the firm as financing needs may change with the changing circumstances of the firm (Damodaran, 2001; Bender & Ird, 1993). In general, the trade-off theory, agency theory and pecking order theory were among some of the theories developed by researchers. The trade-off theory of capital structure, which is also referred to as the tax, based theory states that optimal capital structure is obtained where the net tax advantage of debt growth prospects, profitability, ownership structure, among others. The arbitrage argument of Modigliani and Miller (1958) stimulated a lot of research in the area of capital structure. One of the sub theories for example proposes that capital structure may be financing balances leverage related costs such as financial distress and bankruptcy, holding firm's assets and investment decisions constant (Baxter, 1967 & Altman, 2002). This therefore suggests that it is not an optimal decision for the firm to issue equity.

Myers, (1984) suggests that a manager is reluctant to issue equity if they feel it is undervalued in the market. Pecking order theory proposed by Myers states that firms prefer to finance new investment, first internally with retained earnings, then with debt, and finally with an issue of new equity. Myers argues that an optimal capital structure is difficult to define as equity appears at the top and the bottom of the 'pecking order'. Internal funds incur no flotation costs and require no disclosure of the firm's proprietary financial information that may include firm's potential investment opportunities and gains that are expected to accrue as a three result of undertaking such investments. The agency cost theory of capital structure states that an optimal capital structure is determined by minimizing the costs arising from conflicts between the parties involved. (Jensen & Meckling, 1976) argue that agency costs play an important role in financing decisions due to the conflict that may exist between

shareholders and debt holders. If companies are approaching financial distress, shareholders can encourage management to take decisions, which, in effect, expropriate funds from debt holders to equity holders. Sophisticated debt holders will then require a higher return for their funds if there is potential for This transfer of wealth. Debt and the accompanying interest payments, however, may reduce the agency conflict between shareholders and managers.

## **The Kenyan Insurance Sector**

The Kenyan Insurance Market is governed by the Insurance Act (1984) administered by the Insurance Regulatory Authority (IRA). Under This Act, all assets, liabilities and lives within Kenya must be insured with an Insurance Company registered in Kenya under the Insurance Act. It is also a requirement under the Insurance Act that the Insurance Regulatory authority must approve all reinsurances abroad.

Additionally, all insurance companies must deposit with the Insurance Regulatory Authority their schedule of premium rates for all classes of business. The Insurance Act lays down the terms and standards required by Law for the efficient operation of the Insurance Industry. We comply with all the requirements under the Law, to the letter.

There are two Kenyan Reinsurance companies i.e. Kenya Reinsurance Company Limited and East Africa Reinsurance Company Limited.

There are also two regional reinsurance companies namely Africa Reinsurance Company and PTA Reinsurance Company Limited operating in Kenya. However, the capacities of these reinsurance companies are small and more than half of the reinsurances are placed overseas.

The insurance industry in Kenya is said to have been growing steadily over the last few years, according to a survey carried out by Think Business. Their survey indicated that insurance companies are now investing more in government securities as compared to previous years. The survey found that total share capital in the industry inched upwards from KES 10.2 billion in 2008 to KES 12.9 billion in 2009. In the Budget, the then Finance Minister announced regulations that required insurance firms to enhance their capital based on the different classes of business that they underwrite before June 14, 2010. Those dealing with general business were required to raise their share capital to KES 300 million, while those underwriting life were expected to increase theirs to KES 150 million. For firms doing both general and life, the requirement is pegged at KES 450 million. Most notably, the industry records a 70% rise in bank deposits from KES 17.6 billion in 2008 to KES 60.5 billion in 2009. It however registered declines in equipment and property, which depreciated by 11%.

On the issue of bank assurance, a generally new trend, where banks sell insurance products on behalf of insurance companies, analysts said that it is a risky business, and would not work at the moment, since there is no regulatory body to put mechanisms in place for it to succeed.

## **Statement of the Problem**

High risk exposure, poor understanding and ignorance about benefits of insurance, high cost of insurance premiums, and low per capita income and low countrywide access of insurance services especially in rural areas are some of the hurdles in the insurance sector in Kenya. (Kuria, 2010), maximization of benefits and reduction of costs in this sector is very important since it contributes to stability of all the other sectors of the economy. Although several studies have been done on the determinants of capital structure of the companies listed at the NSE, some of these studies came up with conflicting conclusions. In addition, these studies were carried out on different points in time and for different durations and some of the studies focused on specific sectors of the economy and it is necessary to ascertain if these findings hold in other sectors of the economy, and in This case, the insurance sector. For instance empirical investigation, Kinyua, (2005) on capital structure determinants for small and medium-sized enterprises in Kenya, found that, profitability, company size, asset structure, management attitude towards risk, and the lender's attitude towards the company are key determinants of capital structure. There is therefore need to ascertain whether this finding holds in other sectors of the economy. Munene (2006) found out that profitability alone does not account for variations in capital structure. Arimi (2010) concluded that there is a negative relationship between performance and capital structure. Kamau (2010) concluded that there is a weak relationship, while Ondiek (2010) found out that there is a positive relationship. These findings therefore conflict making further research in this area necessary. A study on the determinants of the capital structure of these companies is therefore an important research area, which will give an empirical analysis of what really determines the capital structure, and this will contribute in the continuing search for an optimal capital structure for firms. This study is relevant in the Kenyan context given the important role the insurance companies are expected to play in economic growth. It is expected that the findings of this study will have important policy implications for Kenyan firms.

### **Objective of the Study**

This study sought to establish the extent to which the age of the firm affects capital structure of insurance companies in Kenya listed in the Nairobi securities exchange

### **Research Questions**

What is the extent to which the age of the Insurance firm affects capital structure?

### **Hypothesis**

H<sub>0</sub>: There is no linear relationship between the age and the capital structure.

### **Limitation to the study**

The study focused only on determinant of capital structure of insurance companies listed in the NSE

## **LITERATURE REVIEW**

### **Theoretical Review**

The determination of capital structure has been one of the most controversial topics in finance and several theories have been put forth on this subject. Bradley et al (1984) acknowledges that capital structure has been one of the most contentious issues in the theory of finance. Several years later, Myers also concludes that there is no universal theory of debt-equity choice and there's no reason to expect one (Myers, 2001). The relevant theory for the study is the capital structure life stage theory as follows:

### **Capital Structure Life Stage Theory**

This theory deals with the relationship between organizational life stage and capital structure. Bender and Ird (1993) focused on the trade-off between business risk and financial risk. They posit that business risk reduces over the life stages of a firm, allowing financial risk to increase. Hovakimian, et al (2001) also suggested that 'firms should use relatively more debt to finance assets in place and relatively more equity to finance growth opportunities', and should, therefore, use progressively more debt in their financing mix as they mature. Damodaran (2001) also supported This view by proposing that expanding and high-growth firms would finance themselves primarily with equity, while mature firms would replace equity with debt.

Capital structure life stage theory seems to suggest that debt ratios should increase as the firm progresses through the early life stages. Empirically, however, little work has been done to support or refute this idea. Morgan and Abetti (2004) in their analysis of the venture capital financing of biotech ventures, argued that high technology ventures are so risky that they can only be financed by venture capital and private equity sources. Their view supports the theory that riskier firms in the infancy and growth life stages should use more equity. According to Frielinghaus *et al.*, (2005), firms in infancy and growth stages have a high business risk and

cannot afford financial risk, while firms in prime and stable stages can afford the extra risk that accompanies debt financing. Firms in the declining life stages would experience a growth in business risk and would need to decrease their exposure to debt.

### **Age of the firm as a Determinant of Capital Structure**

There are different factors determined by the capital structure theories and that may affect the financial leverage choice. According to Harris and Arthur (1991), the debt ratio increases with fixed assets, non-debt tax shield, growth opportunities and company size and decreases with volatility and profitability. Titman and Wessels, (1988) confirm that asset structure, non-debt tax shields, growth, uniqueness, industry classification, size, earnings volatility, and profitability are factors that may affect leverage according to different theories of capital structure. Among the factors, the most common cited are asset tangibility, non-debt tax shield, profitability, size, expected growth, uniqueness, operating risk, industry classification, managerial ownership, and the age of the company. This study looks at the age of the firm.

### **Age of the Firm**

The age of the company is considered an important determinant of capital structure in most financial literature. The longer the company is in business, the higher is its ability in taking on more debt and therefore there is a positive relationship between the age and the leverage of a firm. In general, the older companies have stronger reputation and good name built up over the years. The managers concerned with the reputation of their companies tend to act more prudently and avoid risky projects ensuring by consequence a higher quality (Peterson and Rajan, 1994).

In their empirical test, Ellili and Farouk, (2011) found out the age of a firm seems not to affect the short-term leverage of the company while it negatively affects the long term leverage. Their findings therefore suggest that, the mature companies are no longer interested in accumulating more long-term debt in their capital structure. In their study, they measure the age of the company by the number of years in business. It is this same measure that is used in this paper, that is, a company's age is the number of years it has been in business.

### **Empirical Studies on Capital Structure**

Arimi, (2010) did a study on the relationship between capital structure and financial performance among firms listed under the industrial and allied sector at the Nairobi Stock

Exchange. His study covered five years, from 2004 to 2008. This study found out that, there exists a negative relationship between debt-equity ratio and return on equity (ROE), that is to say, an increase in the debt-equity ratio leads to a decrease in ROE. This implies that companies are unwilling to source for funds externally when ROE is on the increase.

Kamau, (2010) studied the relationship between capital structure and financial performance of insurance companies in Kenya. This study covered four years, from 2006 to 2009. The study found out that there is a weak relationship between financial performance and capital structure. This implies that debt to equity ratio accounted for only a small percentage of financial performance among the companies studied.

Ondiek, (2010) also carried out a study on the relationship between capital structure and financial performance of the firms listed at the Nairobi Stock Exchange. This study concluded that the profitability of a company, its asset tangibility and company size are key determinants of capital structure to various degrees. Size of the company and profitability are therefore important determinants of capital structure.

Kuria, (2010) studied determinants of capital structure of companies quoted at the Nairobi Stock Exchange. This study covered seven years from 2003 to 2009 and regression is used to analyze the data collected. The study concluded that profitability and asset structure are the determinants of capital structure. Growth is found out to be not a very important determinant, while size and taxation were seen to have an insignificant influence on capital structure.

Boodhoo, (2009) provide a brief review of literature and evidence on the relationship between capital structure and ownership structure. The paper also provides theoretical support to the determinants of capital structure.

Mehmet and Eda, (2009) tested whether average leverage level of sector and leverage level of sector leader are effective on capital structure decisions of selected firms and sectors listed in Istanbul Stock Exchange for the period of 1999 to 2006. They found out that, while sector averages are effective at a meaningful extent in white goods sector, it is seen that it affects leverage level of sector leader considerably. They show that, in their study using panel data analysis method considering firms as a whole without discrimination, both sector average and sector leader display a positive relation with leverage level of firms.

Munene, (2006) studied the impact of profitability on capital structure of companies listed at the Nairobi Stock Exchange. The study is carried out over a period of six years from 1999 to 2004 and the data collected is analyzed using regression. This study established that profitability on its own does not exclusively account for variability in capital structure. The study revealed that there are more variables that could be in play to determine a firm's capital structure.

Fakher et al, (2005) provides evidence of the capital structure theories pertaining to a developing country and examines the impact of the lack of a secondary capital market by analyzing a capital structure question with reference to the Libyan business environment. The results show that both the static trade-off theory and the agency cost theory are pertinent theories to Libyan companies' capital structure whereas there is little evidence to support the asymmetric information theory. The lack of a secondary market may impact on agency costs, as shareholders who are unable to offload their shares might exert pressure on managers to act in their best interests.

Matibe, (2005) studied the relationship between ownership structure and capital structure for companies quoted at the Nairobi Stock Exchange. This study covered the years from 1998 to 2002 and made use of correlation analysis to analyze the data collected. The study found out that firms owned by the state are more likely to borrow than those owned by individuals, institutions or foreign investors. This implies that state-owned firms have a greater appetite for debt than those owned by individuals and other investors. Also, it may mean that state-owned firms have more access to debt than the individual owned and other investor owned firms.

Kinyua, (2005) did an empirical investigation of capital structure determinants for small and medium-sized enterprises in Kenya. The study covered five years, from 1998 to 2002 and used correlation and regression to analyze the data collected. The study found out that profitability, company size, asset structure, management attitude towards risk, and the lender's attitude towards the company are key determinant of capital structure. There is therefore need to ascertain whether this finding holds in other sectors of the economy.

Keshar, (2004) examined size, business risk, growth rate, earnings rate, dividend payout, debt service capacity, and the degree of operating leverage as expected determinants of capital structure of the companies listed at the Nepal Stock Exchange as of July 16, 2003. They used

an eight-variable multiple regression model to assess the influence of defined explanatory variables on capital structure. Their study shows that size, growth rate and earning rate are statistically significant determinants of capital structure of the listed companies.

Odinga, (2003) studied the determinants of capital structure of companies listed at Nairobi Stock Exchange for a period of thirteen years from 1989 to 2001. His study employed multiple regressions to analyze the data collected. The study found out that profitability and non-debt tax shield are the most significant determinants of a company's capital structure. There is need therefore to determine if this is the case during a different period of time, 2001 to 2010.

Chonde, (2003) did a study of determinants of capital structures of public sector enterprises in Kenya. The study covered the period from 1994 to 1998 and utilized regression analysis to determine the relationships. The study found out that public sector firms did not strive to maximize profits in a competitive market and their managers had no autonomy, capacity and motivation to respond to competition. They therefore found it difficult to go for loans and they depended on government funding which is categorized as equity.

Wolfgang and Roger (2003) tested leverage predictions of the trade-off and pecking order models using Swiss data. They found that leverage of Swiss firms is comparatively low and that more profitable firms use less leverage and firms with more investment opportunities apply less leverage. Their results confirm the pecking order model but seem to go contrary to the trade-off model.

Philippe et al, (2003) also analyzed the determinants of the capital structure for a panel of 106 Swiss companies listed in the Swiss stock exchange using static and dynamic tests for the period 1991 to 2000. They found that the size of companies, the importance of tangible assets and business risk are positively related to leverage, while growth and profitability are negatively associated with leverage.

Dev et al, (1997) did an analysis to confirm the linkage between capital structure and strategic posture of the firm. They found that managers structure the selection of debt and capital intensity in a means consistent with the strategic goal of long-run control of systematic risk.

Titman and Wessels, (1988) extended empirical work on capital structure theory by examining a much broader set of capital structure theories, many of which have not previously been analyzed empirically. Since the theories have different empirical implications in regard to different types of debt instruments, they analyzed measures of short-term, long-term, and convertible debt rather than an aggregate measure of total debt. They also used a factor-analytic technique that mitigates the measurement problems encountered when working with proxy variables.

## **Conclusion**

The various studies done on capital structure have not yet resolved the puzzle of attaining an optimal capital structure by firms especially on the insurance industry. Various empirical studies reviewed in this chapter have further revealed the contradicting views of researchers on the subject of capital structure. On factors affecting the capital structure, only few studies have been done in Kenya and specifically on the relationship between age and capital structure. This study addressed the knowledge gap on the relationship between age and capital structure of the insurance companies.

## **Figure: 2.1 The Conceptual framework**

### **RESEARCH METHODOLOGY**

This is an explanatory study of the effect of age on capital structure of the insurance sector companies in Nairobi, Kenya. The study employed a cross-sectional causal design to gather the data as it is cost effective and the data is collected within a short period of time. It involved observation of a representative subset at a defined time. It is a quantitative study and the data collection covered the financial year (2013). Cooper and Schindler, (2000) described a population as the total collection of elements about which the researcher wishes to make inference. The study involved all major insurance sector registered companies in Kenya namely; Jubilee insurance company ltd, Britam insurance company, Pan Africa insurance Holdings, insurance company of East Africa (ICEA), and co-operative insurance company. Primary and secondary methods of data collection were employed. Nairobi Securities Exchange information handbook provided information for all listed companies in Kenya and also through questionnaire.

Data is analysed using regression to measure the effect of age on the company's capital structure using  $Y = \alpha + \beta_1 X_1 + E$

Where;

Y is total leverage measured as the ratio of total interest-bearing debt to capital

$\alpha, \beta_1 - \beta_4$  are coefficients to be extracted

X1 is age of the firm measured as the number of years in business

E is the random error term

Data is presented in figures and tables. Summary statistics of the mean, standard deviation, minimum and maximum of all the variables for both dependent and independent variable is constructed. F-test is used to test the linear relationship between the independent and dependent variable.

## DATA ANALYSIS AND FINDINGS

A few companies were used to represent the rest of the insurance companies.

- Total leverage is measured as the ratio of total interest-bearing debt to capital
- The size of the firm is calculated as the natural logarithms of the total assets
- The data used is from the year 2008 to 2013.

### 4.3 Regression Analysis

Table 4.2: Regression Analysis

In terms of capital structure with a consideration on age of the firm, it is evident that for all the Insurance companies involved in the study, 65.5% of the total leverage is explained by the age.

#### 4.3.1 Analysis of Variance for Variables

Table 4.3: ANOVA

The study revealed that the regression model is lower than the residual model, which means that the capital structure accounts to much of the variability on the total leverage. The significance level being below our threshold of 0.05 confirms that the significance of capital structure to the total leverage is high and confirmed by the F test.

From the table above, the significance level is 0.000 thus showing that the model is a strong one in predicting the outcome, since it is below the threshold of 0.05. Thus, we can comfortably conclude that the overall model is good fit for the data. We thus reject the null

hypothesis and conclude that there is a linear relationship with at least one dependent variable and total leverage. It also shows that at least age predicts the capital structure.

The study reveals that the regression model is lower than the residual model which means that the total leverage accounts too much of the variability on the financial performance. The significance level being below our threshold of 0.05 confirms that the significance of total leverage to financial performance is high and confirmed by the F test.

Table 4.4: Age of the company and Performance of the capital structure

### 4.3 Summary and Interpretation of findings

$$Y = \alpha + \beta_1 X_1 + E$$

$$\text{Total leverage} = -0.106 + 0.003X_1 + 0.118$$

Y is total leverage measured as the ratio of total interest-bearing debt to capital

X<sub>1</sub> is age of the firm measured as the number of years in business

E is the random error term

The study indicates that the age of the firm had a significant impact on total leverage.

There is a linear relationship between the age of the company and the total leverage at 0.05 level of significance.

## SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

### Conclusion

From the regression analysis, it is evident that there is a significant influence of the specific factor measuring the capital structure on age. The analysis indicates that the age of the company had a positive relationship with the total leverage. This means that how old the company is, determined the capital structure of the companies studied.

### Plagiarism

Time is a valuable factor. The study is time consuming especially during the data collection task. Data analysis consumed the better part of the study and my time too.

## **Recommendations**

### **Policy Recommendation**

From the study, it is evident that there is no specific body that regulates the publication and availability of financial information in the Kenyan market. The existing bodies, Capital Markets Authority, Retirements Benefits Authority, Insurance Regulatory Authority and Kenya Revenue Authority do not regulate how the market operates effectively. There's need for the government through the respective ministries and parastatals to regulate the market asymmetry in order to ensure that many people can make sound investment decisions when investing in insurance firms.

### **Areas of further research**

This study mainly focused on finding the factors that determine the capital structure of insurance companies listed at the Nairobi Stock Exchange. From the data obtained, the factors found to determine the capital structure were the size of the company, growth and also the age of the company. This research can be extended to look for other factors that determine the capital structure, since I believe there are many more that were not included in this research.

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## APPENICES; FIGURES AND TABLES

**Figure: 2.1 The Conceptual framework**

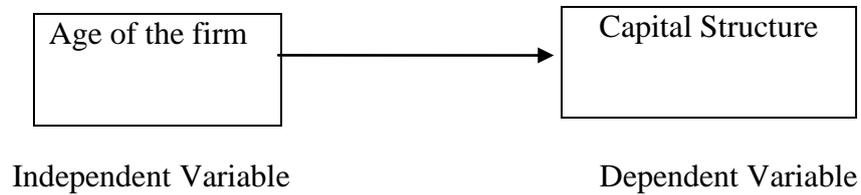


Figure 1: Relationship of independent and Dependent Variables

### 4.1 Data collected

	<b>TOTAL LEVERAGE(Capital Structure)(Debt/Total Capital</b>	<b>AGE</b>
<b>PAN AFRICA</b>	0.247276676	65
	0.278884976	64
	0.307414319	63
	0	62
	0	61
	0	60
	0	59
<b>BRITAM</b>	0.536395631	47
	0.508827948	46
	0.383729713	45
	0.312343475	44
	0.328233991	43
	0.303644614	42
	0	0
<b>CIC INSURANCE</b>	0.116058517	17
	0.024735542	16
	0.03192006	15
	0.043042847	14
	0.104925909	13
	0.078772591	12
	0.063285281	11
<b>JUBILEE</b>	0.555985034	75
	0.565707783	74
	.432496616	73
	0.421666518	72
	0.245165366	71
	0.227167381	70
	0.251671547	69

**Table 4.2: Regression Analysis**

Model Summary					
Model		R	R Square	Adjusted R Square	Std. Error of the Estimate
1		.809 <sup>a</sup>	.655	.595	.1214399
a. Predictor: (Constant), Age					

**Table 4.3: ANOVA**

ANOVA <sup>b</sup>						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	.644	4	.161	10.916	.000 <sup>a</sup>
	Residual	.339	23	.015		
	Total	.983	27			
a. Predictor: (Constant)Age,						
b. Dependent Variable: Total_leverage						

**Table 4.4: Age of the company and Performance of the capital structure**

Model		Coefficient				
		Unstandardized Coefficients		Standardized Coefficient		
		B	Std. Error	Beta	t	Sig.
1	(Constant)	-.106	.118		-.899	.378
	Age	.003	.002	.212	1.224	.233
a. Dependent Variable: Total leverage						